iSR6142
Command Line Interface (CLI)

User's Guide

SN0054659-00 A

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1 Introduction

This manual describes how to use the command line interface (CLI) to configure and manage the iSR6142 Intelligent Storage Router (iSR-6142).

Intended Audience

This guide is for users who are responsible for installing, managing, and servicing the iSR6142 router and the storage area network (SAN) equipment to which it is attached.

Related Materials

- *iSR6142 Router Installation Guide*, part number SN0051102-00
- *iSR6142 Router Manager User's Guide*, part number SN0054660-00
- *Internet Protocol, Version 6 (IPv6) Specification*, RFC2460
- *Neighbor Discovery for IP Version 6 (IPv6),* RFC2461
- *IPv6 Stateless Address Autoconfiguration*, RFC2462
- *Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification*, RFC2463
- *Transmission of IPv6 Packets over Ethernet Networks*, RFC2464
- iSCSI draft standard draft-ietf-ips-iSCSI-20
- *Internet engineering task force (IETF) – iSCSI Requirements and Design Considerations, iSCSI Naming and Discovery, Internet Protocol Specification (IPv4)*, RFC793
- *Transmission Control Protocol (TCP) Specification, RFC1122, Requirements for Internet Hosts-Communication Layers*
- *TCP Extensions for High Performance*, RFC1323
- *TCP Congestion Control*, RFC2581
- *NewReno Modification to TCP's Fast Recovery Algorithm*, RFC2582

- *ANSI SCSI – SCSI-3 Architecture Model (SAM), X3T10/994D/Rev 18, SCSI-3 Controller Command Set, X3T10/Project 1047D/Rev 6c. IEEE – 802.1Q Virtual LAN (VLAN), 802.1p Priority of Service, 802.3x Flow Control, 802.3ad Link Aggregation*
- *SCSI-3 Fibre Channel Protocol (SCSI-FCP)*, X3.269:1996
- *Fibre Channel Physical and Signaling Interface (FC-PH)*, X3.230:199
- *Fibre Channel 2nd Generation (FC-PH-2)*, X3.297:1997
- *Third Generation Fibre Channel Physical and Signaling Interface (FC-PH-3), X3.303:1998, Fibre Channel-Arbitrated Loop (FC-AL-2)*, working draft, revision 6.4, August 28, 1998
- *Fibre Channel Fabric Loop Attachment Technical Report (FC-FLA) NCITS/TR-20:1998, Fibre Channel-Private Loop Direct Attach Technical Report (FC-PLDA)*
- *SCSI Fibre Channel Protocol-2 (FCP-2)* working draft, revision 3, October1, 1999
- *Fibre Channel over TCP/IP (FCIP)*, RFC3821
- *ANSI Information Technology-SCSI 3 Architecture Model*, revision 18, November 27, 1995

Technical Support

Customers should contact their authorized maintenance provider for technical support of their QLogic products. QLogic-direct customers may contact QLogic Technical Support; others will be redirected to their authorized maintenance provider.

Visit the QLogic support Web site listed in Contact Information for the latest firmware and software updates.

Availability

QLogic Technical Support for products under warranty is available during local standard working hours excluding QLogic Observed Holidays.

Training

QLogic offers certification training for the technical professional for QLogic HBAs, CNAs, switches, and routers. From the training link at www.qlogic.com, you may choose Electronic-Based Training or schedule an intensive "hands-on" Certification course.

Technical Certification courses include installation, maintenance, and troubleshooting QLogic SAN products. Upon demonstrating knowledge using live equipment, QLogic awards a certificate identifying the student as a Certified Professional. The training professionals at QLogic may be reached by email at tech.training@qlogic.com.

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2 Command Usage

The command line interface (CLI) enables you to perform a variety of router management tasks through an Ethernet or serial port connection. This section describes the following:

- Logging On to a SAN Router
- Guest Account
- Working with SAN Router Configurations

Logging On to a SAN Router

To log on to a router using Telnet, open a command line window on the workstation and enter the Telnet command followed by the router IP address:

```
# telnet <ip_address>
```

A Telnet window opens prompting you for a login. Enter an account name and password.

To log on to a switch through the serial port, configure the workstation port with the following settings:

- 115200 baud
- 8-bit character
- 1 stop bit
- No parity

Enter an account name and password when prompted.

Guest Account

Routers come from the factory with the following account already defined:

Account name: guest

Password: password

This guest account provides access to the router and its configuration. After planning your router management needs, consider changing the password for this account.

The guest account is automatically closed after 15 minutes of inactivity.

See the password command (page 4-21) for information about changing passwords.

Working with SAN Router Configurations

Successful management of routers with the command line interface depends on the effective use of router configurations. Modifying configurations, backing up configurations, and restoring configurations are key router management tasks.

Modifying a Configuration

The router has three major areas of configuration:

- Management port configuration, which uses the following commands:
  - `set mgmt` (see page 4-42)
  - `show mgmt` (see page 4-62)
- ISCSI port configuration, which uses the following commands:
  - `set iscsi` (see page 4-39)
  - `show iscsi` (see page 4-56)

Saving and Restoring Router Configurations

Saving and restoring a configuration can help protect your work or for use as a template in configuring other routers.

Save Router Configuration and Persistence

Perform the following steps to save the router's configuration and persistent data.

Persistent data consists of LUN mappings, discovered FC targets, and discovered iSCSI initiators.

To save the router's configuration and persistence:

1. Execute the `fru save` CLI command (see "FRU" on page 4-10) to generate a file (`iSR-6142_FRU.bin`) containing the saved data. This file is stored locally on the router in an FTP directory.
2. Transfer the saved data from the router to a workstation by executing an FTP utility on a workstation. The following text is an example of an FTP transfer to get the saved router configuration data:

```
c:\>ftp 172.17.137.102
Connected to 172.17.137.102.
220 (none) FTP server (GNU inetutils 1.4.2) ready.
User (172.17.137.102:(none)): ftp
331 Guest login ok, type your name as password.
Password: ftp
230 Guest login ok, access restrictions apply.
ftp> bin
200 Type set to I.
ftp> get iSR-6142_FRU.bin
200 PORT command successful.
150 Opening BINARY mode data connection for
'iSR-6142_FRU.bin' (6168 bytes).
226 Transfer complete.
ftp: 6168 bytes received in 0.00Seconds
6168000.00Kbytes/sec.
ftp> quit
221 Goodbye.
```

Restore Router Configuration and Persistence

To restore the router's configuration and persistent data:

1. Transfer the saved data from a workstation to the router by executing an FTP utility on the workstation. The following text is an example of an FTP transfer to put previously saved router configuration data on the router:

```
c:\>ftp 172.17.137.102
Connected to 172.17.137.102.
220 (none) FTP server (GNU inetutils 1.4.2) ready.
User (172.17.137.102:(none)): ftp
331 Guest login ok, type your name as password.
Password: ftp
230 Guest login ok, access restrictions apply.
ftp> bin
200 Type set to I.
ftp> put iSR-6142_FRU.bin
200 PORT command successful.
150 Opening BINARY mode data connection for
'iSR-6142_FRU.bin'.
226 Transfer complete.
ftp: 6168 bytes sent in 0.00Seconds
6168000.00Kbytes/sec.
ftp> quit
221 Goodbye.
```

2. Execute the `fru restore` CLI command (see "FRU" on page 4-10) to update the router with the saved configuration data. The `fru restore` command has the following two options:

   - Full restore – Restores all router configuration parameters, including IP addresses, subnet masks, gateways, local/remote mappings, and all other persistent data.
   - Partial restore – Restores only the local/remote mappings and persistent data, such as discovered FC targets and iSCSI initiators.

3 Configuring CHAP

This chapter describes CHAP and provides the procedures for configuring CHAP from the command line interface (CLI).

For procedures, see the following sections:

- "Discovery Session—Bi-directional CHAP" on page 3-2
- "Discovery Session—Uni-directional CHAP" on page 3-3
- "Normal Session—Bi-directional CHAP" on page 3-4
- "Normal Session—Uni-directional CHAP" on page 3-5

CHAP Definition

In challenge handshake authentication protocol (CHAP), the authentication agent sends the client program a random value that is used only once and an ID value. Both the sender and peer share a predefined secret. The peer concatenates the random value, the ID, and the secret, and calculates a one-way hash using MD5 (Message-Digest algorithm 5). It sends the hash value to the authenticator, which in turn builds that same string on its side, calculates the MD5 checksum, and compares the result with the value received from the peer. If the values match, the peer is authenticated.

By transmitting only the hash, the secret cannot be reverse-engineered. The ID value is increased with each CHAP dialogue to protect against replay attacks.

Discovery Session—Bi-directional CHAP

To configure a bi-directional CHAP used during a discovery session:

1. On the router:
   a. Enable CHAP on the port.
   b. Create a secret (for example, *secret_port).*
   c. Using the `set chap` command, choose the iSCSI node that represents the GE port.
   d. Use the `show iscsi` command to find the iSCSI node name of the GE port.
2. Use the `initiator add` command to add the initiator that is about to do discovery:
   a. Enable the CHAP for this initiator.
   b. Create a secret (for example, *secret_initiator*).
   c. Use the `set chap` command to update the CHAP settings of the initiator.
3. Go to the Microsoft iSCSI (MS) Initiator and perform the following steps:
   a. Click **General**.
   b. Click **Secret** (in the middle of the screen). If this is the first time you are setting secrets, reset all secrets.
   c. Type the secret (*secret_port*) that you created in Step 1.
4. Click **Discovery**.
5. Click **Add**.
6. Type the address of the iSCSI port of the router.
7. Click **Advanced**.
8. Select **Chap Login Information**.
9. Type the secret (*secret_initiator*) you created in Step 2 into **Target Secret**.
10. Select **Mutual Authentication**.
11. Click **OK**.
12. Click **OK**. The initiator completes the discovery.

Discovery Session—Uni-directional CHAP

To configure a single-direction CHAP used during a discovery session:

1. Do not enable CHAP on the ISCSI port.
2. Use the `initiator add` command:
   a. Add the initiator that is about to perform the discovery.
   b. Enable the CHAP for this initiator.
   c. Create a secret (for example, *secret_initiator*).
   d. Use the `set chap` command to update the initiator's CHAP settings.
3. Go to the MS Initiator.
4. Click **Discovery**.
5. Click **Add**.
6. Type the address of the iSCSI port of the router.
7. Click **Advanced**.
8. Select **Chap Login Information**.
9. In **Target Secret**, type the secret (*secret_initiator*) you created in Step 2.
10. Click **OK**.
11. Click **OK**. The initiator should complete discovery.

Normal Session—Bi-directional CHAP

To configure a bi-directional CHAP used during a normal session:

1. On the router:
   a. Enable CHAP on the presented target to which the initiator will login.
   b. Create a secret (for example, *secret_target*).
   c. Use the `set chap` command.
2. Use the `initiator add` command to add the initiator that is about to do a normal login:
   a. Enable the CHAP for this initiator.
   b. Create a secret (for example, *secret_initiator)*.
   c. Use the `set chap` command to update the CHAP settings of the initiator.
3. Go to the MS Initiator and perform the following steps:
   a. Click **General**.
   b. Click **Secret** (in the middle of the screen).
   c. If this is the first time you are setting secrets, reset all the secrets.
   d. Type the secret (*secret_target*) that you created in Step 1.
4. Click **Targets**.
5. Select the target you want to login to.
6. Click **Advanced**.
7. Select **Chap Login Information**.
8. Type the secret *(secret_initiator*) that you created in Step 2 into **Target Secret**.
9. Select **Mutual Authentication**.
10. Click **OK.**
11. Click **OK**. The initiator completes the normal login.

Normal Session—Uni-directional CHAP

To configure single-direction CHAP to be used during a normal session:

1. Do not enable CHAP on the presented target.
2. Use the `initiator add` command:
   a. Add the initiator that is about to do a normal login.
   b. Enable the CHAP for this initiator.
   c. Create a secret (for example, *secret_initiator*).
   d. Use the `set chap` command to update the CHAP settings of the initiator.
3. Go to the MS Initiator.
4. Click **Targets**.
5. Select the target you want to login to.
6. Click **Advanced**.
7. Select **Chap Login Information.**
8. Type the secret (*secret_initiator*) that you created in into **Target Secret**.
9. Click **OK**.
10. Click **OK**. The initiator completes the normal login.

Notes

4 Command Reference

This chapter lists and describes the CLI commands in alphabetical order. Each command description includes its syntax, keywords, notes, and examples.

Command Listing

Table 4-1. CLI Commands

A	Admin
B	Beacon
C	Clear
D	Date
F	FcipRoute, FRU
H	Help, History
I	Image, Initiator
L	Localmap, Logout
P	Password, Ping
Q	Quit
R	Reboot, Remote Map, Remote Peer, Reset Factory
S	Save, Shutdown
Set	Set, Set CHAP, Set FC, Set Features, Set iSCSI, Set iSNS, Set Mgmt, Set NTP, Set Properties, Set SNMP, Set System
Show	Show, Show CHAP, Show FC, Show FcipRoutes, Show Features, Show Initiators, Show iSCSI, Show iSNS, Show Localmaps, Show Logs, Show Memory, Show Mgmt, Show NTP, Show Performance, Show Presented Initiators, Show Presented Targets, Show Properties, Show Remotemaps, Show Remotepeers, Show SNMP, Show Stats, Show System, Show Targets, Show VLAN
T	Target, Traceroute

Command Syntax

The CLI commands use the following syntax:

command

keyword

keyword *[value]*

keyword *[value1] [value2]*

The **command** is followed by one or more keywords. Consider the following rules and conventions:

- Commands and keywords are case *insensitive*.
- Required keyword values appear in standard font: *[value]*. Optional values are shown in italics: *[value]*.
- Underlined portions of the keyword in the command format indicate the abbreviated form. For example, you can abbreviate the Delete keyword using Del.

The command-line completion feature makes entering and repeating commands easier. Table 4-2 describes the command-line completion keystrokes.

Table 4-2. Command Line Completion

Keystroke	Effect
Tab	Completes the command line. Enter at least one character and press the **Tab** key to complete the command line. If more than one possibility exists, press the **Tab** key again to display all possibilities.
Up Arrow	Scrolls backward through the list of previously entered commands.
Down Arrow	Scrolls forward through the list of previously entered commands.
Control-A	Moves cursor to the beginning of the command line.
Control-E	Moves cursor to the end of the command line.

The command set performs monitoring and configuration tasks. Commands related to monitoring tasks are available to all account names. Commands related to configuration tasks are available only within an Admin session. An account must have admin authority to enter the `admin start` command, which opens an admin session. Refer to the "Admin" on page 4-3.

Admin

Opens and closes an administrator session. You can run any command that changes the router configuration within an Admin session. Only one Admin session can be open on the router at any time. An inactive Admin session will time out after 15 minutes.

When you start an Admin session, the system prompts you to enter a password. The default password is `config`.

Authority None

Syntax **admin**

start (or begin)
end (or stop)
cancel

Keywords **start (or begin)**

Opens the Admin session.

end (or stop)

Closes the Admin session. The `logout`, `shutdown`, and `reset` commands will also end an Admin session.

cancel

Terminates an Admin session opened by another user. Use this keyword with care, because it terminates the Admin session without warning the other user and without saving pending changes.

Notes Closing a Telnet window during an Admin session does not release the session. In this case, you must either wait for the Admin session to time out, or use the `admin cancel` command.

Examples Opening and closing an Admin session example:

```
QRouter #> admin start
Password : ******
QRouter(admin) #>
...
QRouter(admin) #> admin end
QRouter #>
```

Beacon

Enables or disables the Heartbeat and System Fault LEDs flashing. The heartbeat and system fault LEDs flash synchronously (on and off, together). No other LEDs are affected.

Authority Admin session

Syntax **beacon**

on

off

Keywords **on**

Turns on the router beacon.

off

Turns off the router beacon.

Examples Beacon command example:

```
QRouter #> beacon on
```

Clear

Provides two operations: it removes all entries from the router's log file, or it resets the Fibre Channel and iSCSI statistic counters.

Authority Admin session

Syntax **clear**
logs
stats

Keywords **logs**

Clears all entries from router's log file.

stats

Resets the statistic counters.

Examples Clear command example:

```
QRouter (admin) #> clear logs
QRouter (admin) #> clear stats
```

Date

Displays or sets the date and time. To set the date and time, the information string must be provided in this format: *MMDDhhmmCCYY*. The new date and time takes effect immediately.

The date and time should be set to UTC "Coordinated Universal Time", also known as GMT "Greenwich Mean Time." This is required for the router management application to correctly display the router's time. The router management GUI also sets the router time to UTC.

Authority Admin session to set the date and time. No authority required to display the current date and time.

Syntax **date**

[MMDDhhmmCCYY]

Keywords ***[MMDDhhmmCCYY]***

Specifies the date—this requires an Admin session. If you omit *[MMDDhhmmCCYY],* the command uses the current date, which does not require an admin session.

Notes Network time protocol (NTP) must be disabled to set the time with the Date command. Refer to the "Set NTP" on page 4-43 for information about NTP.

Examples Date command example:

```
QRouter (admin) #> date 010314282007
Tue Jan 1 14:28:00 2008
QRouter (admin) #> date
Tue Jan 1 14:28:14 2008
```

FcipRoute

Configures a new FCIP route and lets you modify or delete an existing FCIP route. Each FCIP route requires a dedicated FC and Gigabit Ethernet port. Configuring an FCIP route and specifying an FC and GE port pair take precedence over any previous configuration for the port pair (FC/GE). This removes the previous configuration of the port pair.

Authority Admin session.

Syntax **fciproute**

add
mod
rm

Keywords **add**

Configures a new FCIP route.

modify

Modifies command modifies an existing FCIP route.

remove

Removes an existing FCIP route.

Examples FCIP route add command example:

```
QRouter (admin) #> fciproute add

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

WARNING:
The following command might cause a loss of connections to both GE
ports.

Configuring FCIP Route: 1
--------------------------
FCIP Interfaces FC & GE (0=Enable, 1=Disable) [Enabled         ]
FC Port (1=FC1, 2=FC2, ...)                   [FC1             ]
GE Port (1=GE1, 2=GE2, ...)                   [GE1             ]
IP Address (IPv4 or IPv6; 0=IPv6 Link Local)  [0.0.0.0         ] 0
Selected IPv6 Link Local Address: fe80::2c0:ddff:fe0c:8be2
```

```
Remote IPv6 Address                                [::              ]
fe80::21b:21ff:fe06:d517
MTU Size (0=Normal, 1=Jumbo, 2=Other)              [Normal          ]
TCP Window Size (0=8KB, 1=16KB, 2=32KB)            [32768           ]
Window Scaling (0=Enable, 1=Disable)               [Disabled        ]
TCP Port No. (Min=1024, Max=65535)                 [3225            ]
GE Port Speed (0=Auto, 1=100Mb, 2=1Gb)             [Auto            ]
FCIP Time Stamp (0=Enable, 1=Disable)              [Enabled         ]
Resource Allocate TimeOut (Min=1sec, Max=5sec)     [1               ]
Bandwidth, Mbit/sec (Min=1, Max=1000)              [1000            ]
VLAN (0=Enable, 1=Disable)                         [Disabled        ]
FCIP SW Compression (0=Enable, 1=Disable)          [Disabled        ]

  All attribute values for FCIP Route 1 will now be saved.
```

FCIP route modify command example:

```
QRouter (admin) #> fciproute mod

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

WARNING:
The following command might cause a loss of connections to both GE
ports.

  Route   FC Port ID  GE Port ID
  -----   ----------  ----------
  1       FC1         GE1

  Please select a FCIP route from the list above ('q' to quit): 1

  Configuring FCIP Route: 1
  --------------------------
  FCIP Interfaces FC & GE (0=Enable, 1=Disable) [Enabled         ]
  IP Address (IPv4 or IPv6; 0=IPv6 Link Local)  [::              ]
  Selected IPv6 Link Local Address: fe80::2c0:ddff:fe0c:8be2
  Remote IPv6 Address [fe80::21b:21ff:fe06:d517]
fe80::21b:21ff:fe06:d514
  MTU Size (0=Normal, 1=Jumbo, 2=Other)         [Normal          ]
```

```
TCP Window Size (0=8KB, 1=16KB, 2=32KB)        [32768          ]
Window Scaling (0=Enable, 1=Disable)           [Disabled       ]
TCP Port No. (Min=1024, Max=65535)             [3225           ]
GE Port Speed (0=Auto, 1=100Mb, 2=1Gb)         [Auto           ]
FCIP Time Stamp (0=Enable, 1=Disable)          [Enabled        ]
Resource Allocate TimeOut (Min=1sec, Max=5sec)[1              ]
Bandwidth, Mbit/sec (Min=1, Max=1000)          [1000           ]
VLAN (0=Enable, 1=Disable)                     [Disabled       ]
FCIP SW Compression (0=Enable, 1=Disable)      [Disabled       ]

All attribute values for FCIP Route 1 will now be saved.
```

FCIP route remove command example:

```
QRouter (admin) #> fciproute rm

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

WARNING:
The following command might cause a loss of connections to both GE
ports.

Route   FC Port ID  GE Port ID
-----   ----------  ----------
1       FC1         GE1

Please select a FCIP route from the list above ('q' to quit): 1

FCIP Route 1 has been removed from the system.
```

FRU

Saves and restores the router's configuration.

Authority Admin session to restore.

Syntax **fru**

restore

save

Keywords **restore**

Requires that you first ftp the tar file containing the desired configuration to the router. After you enter this command, it prompts you to enter the restore level. You can fully restore the router's configuration (all configuration parameters and LUN mappings) or restore only the LUN mappings. The restored configuration will not take effect until you reboot the router.

save

Creates a tar file containing the router's persistent data, configuration, and LUN mappings. It stores the file in the router's `/var/ftp` directory. You must then `ftp` the tar file from the router.

Examples FRU restore command example:

```
QRouter (admin) #> fru restore
A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

Type of restore (0=full, 1=mappings only) [full]

FRU restore completed.
Please reboot the system for configuration to take effect.
```

FRU save command example:

```
QRouter (admin) #> fru save

FRU save completed. Configuration File is QLogic_Router_FRU.bin
Please use FTP to extract the file out from the System.
```

Help

Displays a list of the commands and their syntax.

Authority None

Syntax **help**

Examples Help command example:

```
QRouter #> help
amin [ cancel | start | end ]
beacon [ on | off ]
date [ <MMDDhhmmCCYY> ]
clear [ logs | stats ]
fciproute [ add | mod | rm ]
discover
fru [ restore | save ]
history
image [ cleanup | list | unpack ]
image cleanup
image list
image unpack [ <filename> ]
initiator [ add | rm ]
localmap [ add | rm ]
logout
passwd
ping
quit
reboot
remotemap [ add | mod | rm ]
remotepeer [ add | rm ]
reset factory
save [ capture | logs | traces ]
set [ chap | fc | features | iscsi
isns | mgmt | ntp | properties
snmp | system ]
set chap
set fc [ <PORT_NUM> ]
set features
set iscsi [ <PORT_NUM> ]
set isns [ <PORT_NUM> ]
set mgmt
set ntp
set properties
set snmp [trap_destinations [ <DEST_NUM> ]]
set system
show [ chap | fc | fciproutes
features | initiators | iscsi
isns | localmaps | logs
```

```
memory | mgmt | ntp
perf | presented_initiators | presented_targets
properties | remotemaps | remotepeers
snmp | stats | system
targets ]
show chap
show fc [ <PORT_NUM> ]
show fciproutes [ <LINK_ID> ]
show features
show initiators [ fc | iscsi ]
show iscsi [ <PORT_NUM> ]
show isns [ <PORT_NUM> ]
show localmaps
show logs
show memory
show mgmt
show ntp
show perf [ byte | init_rbyte | init_wbyte | tgt_rbyte | tgt_wbyte ]
show presented_initiators [ fc | iscsi ]
show presented_targets [ fc | iscsi ]
show properties
show remotemaps
show remotepeers
show snmp
show stats
show system
show targets [ fc | iscsi ]
shutdown
target [ add | rm ]
```

History

Displays a numbered list of the previously entered commands.

Authority None

Syntax **History**

Examples History command example:

```
QRouter (admin) #> history
1: admin start
2: help
3: history
```

Image

Updates the router's firmware image and cleans up (removes) the image files in the router's `/var/ftp` directory.

NOTE:

Use FTP to transfer an image file to the router's `/var/ftp` directory.

Authority Admin session

Syntax **image**

cleanup
list
unpack [file]

Keywords **cleanup**

Removes all firmware image files in the router's `/var/ftp` directory. You can transfer these are files when updating the router's firmware image.

list [file]

Displays a list of the firmware image files in the router's `/var/ftp` directory.

unpack [file]

Unpacks the firmware image file specified in the [file] parameter and installs the firmware image on the router. You must reboot the router to activate the new firmware image.

Image cleanup command example:

```
QRouter (admin) #> image cleanup
```

Image list command example:

```
QRouter (admin) #> image list
isr-6142-2_1_1_0.bin
```

Image unpack command example:

```
QRouter (admin) #> image unpack isr-6142-2_1_1_0.bin
Unpack Completed. A reboot is required for the FW to take effect.
Do you wish to reboot the System at the current time (y/n): n
```

Initiator

Adds, modifies, and removes an initiator in the router's database.

Authority Admin session

Syntax **initiator**
add
mod
remove

Keywords **add**

Adds an initiator the router's database.

mod

Modifies the settings of an initiator.

remove

Removes an initiator.

Examples Initiator add command example:

```
QRouter (admin) #> initiator add

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

iSCSI Initiator Name (Max = 256 characters) [ ]
iqn.1991-05.com.microsoft:qlogic-09sd5i4l
All attribute values for that have been changed will now be saved.
```

Initiator mod (modify) command example:

```
QRouter (admin) #> initiator mod
Index (WWNN/iSCSI Name)
----- -----------------
0 iqn.1991-05.com.microsoft:qlogic-09sd5i4l
Please select an Initiator from the list above ('q' to quit): 0

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

All attribute values for that have been changed will now be saved.
```

Initiator remove command example:

```
QRouter (admin) #> initiator rm
Index (WWNN/iSCSI Name)
----- -----------------
0 iqn.1991-05.com.microsoft:qlogic-09sd5i4l
Please select an Initiator from the list above ('q' to quit): 0 All
attribute values for that have been changed will now be saved.
```

Localmap

Maps a locally-connected initiator device to a locally-connected target device. The initiator and target are not on the same FC port.

Authority Admin session

Syntax **localmap**

add

rm

Keywords **add**

Adds a local initiator to target mapping.

rm

Removes a local initiator from target mapping.

Examples Localmap add command example with FC port query:

```
QRouter (admin) #> localmap add

The following wizard will query for attributes before persisting and
activating the updated mapping in the system configuration. If you
wish to terminate this wizard before reaching the end of the list
press 'q' or 'Q' and the ENTER key to do so.

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 50:06:01:60:b0:22:0c:d1,50:06:01:68:30:22:0c:d1
1 iqn.1991-05.com.microsoft:qlogic-09sd5i4l
Please select an Initiator from the list above ('q' to quit) : 1

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:00:00:20:37:fd:9c:f7,22:00:00:20:37:fd:9c:f7
1 50:06:01:60:b0:22:0c:d1,50:06:01:68:30:22:0c:d1
2 20:00:00:20:37:fd:8a:b0,22:00:00:20:37:fd:8a:b0
3 20:00:00:20:37:fd:8b:ab,22:00:00:20:37:fd:8b:ab

Please select a Target from the list above ('q' to quit) : 3
iSCSI port used to access the Initiator (1=GE1, 2=GE2, ...) : 2
FC port used to access the Target (1=FC1, 2=FC2, ...) : 1

The selected initiator has not been presented on the port that was
selected to access the target. The following steps in the wizard will
now setup the initiator so that it is presented on the port that will
be used to access the target. A default name for the presented
initiator is assigned below. To accept the default assigned name
simply press the ENTER key or enter a new name.
```

```
FC presented initiator WWPN [21:01:00:c0:dd:0c:8b:e2 ] :

The selected target has not been presented on the port that was
selected to be accessed the initiator. The following steps in the
wizard will now setup the target so that it is presented on the port
that will be used by the initiator. A default name for the presented
target is assigned below. To accept the default assigned name simply
press the ENTER key or enter a new name.

iSCSI presented target name
[iqn.2004-08.com.qlogic:isr-6142.0608a00471.1.220000
2037fd8bab.2000002037fd8bab] :

All attribute values for that have been changed will now be saved.
```

Localmap add command example without FC port query:

```
QRouter (admin) #> localmap add

The following wizard will query for attributes before persisting and
activating the updated mapping in the system configuration. If you
wish to terminate this wizard before reaching the end of the list
press 'q' or 'Q' and the ENTER key to do so.

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 50:06:01:60:b0:22:0c:d1,50:06:01:68:30:22:0c:d1
1 iqn.1991-05.com.microsoft:qlogic-09sd5i4l
Please select an Initiator from the list above ('q' to quit) : 1

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:00:00:20:37:fd:9c:f7,22:00:00:20:37:fd:9c:f7
1 50:06:01:60:b0:22:0c:d1,50:06:01:68:30:22:0c:d1
2 20:00:00:20:37:fd:8a:b0,22:00:00:20:37:fd:8a:b0
3 20:00:00:20:37:fd:8b:ab,22:00:00:20:37:fd:8b:ab

Please select a Target from the list above ('q' to quit) : 3
iSCSI port used to access the Initiator (1=GE1, 2=GE2, ...) : 2

The selected initiator has not been presented on the port that was
selected to access the target. The following steps in the wizard will
now setup the initiator so that it is presented on the port that will
be used to access the target. A default name for the presented
initiator is assigned below. To accept the default assigned name
simply press the ENTER key or enter a new name.

FC presented initiator WWPN [21:01:00:c0:dd:0c:8b:e2 ] :
```

```
The selected target has not been presented on the port that was
selected to be accessed the initiator. The following steps in the
wizard will now setup the target so that it is presented on the port
that will be used by the initiator. A default name for the presented
target is assigned below. To accept the default assigned name simply
press the ENTER key or enter a new name.
iSCSI presented target name
[iqn.2004-08.com.qlogic:isr-6142.0608a00471.1.220000
2037fd8bab.2000002037fd8bab] :

All attribute values for that have been changed will now be saved.
```

Localmap remove command example:

```
172.17.137.171 (admin) #> localmap rm

The following wizard will query for attributes before persisting and
activating the updated mapping in the system configuration. If you
wish to terminate this wizard before reaching the end of the list
press 'q' or 'Q' and the ENTER key to do so.

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:00:00:14:c3:44:9a:fa,22:00:00:14:c3:44:9a:fa
1 20:00:00:20:37:fd:9c:f7,22:00:00:20:37:fd:9c:f7
2 20:00:00:20:37:fd:8a:b0,22:00:00:20:37:fd:8a:b0
3 20:00:00:14:c3:44:9b:9d,22:00:00:14:c3:44:9b:9d
4 20:00:00:14:c3:3d:d2:bf,22:00:00:14:c3:3d:d2:bf
5 20:00:00:14:c3:44:9b:86,22:00:00:14:c3:44:9b:86
6 20:00:00:14:c3:3d:cf:80,22:00:00:14:c3:3d:cf:80
7 20:00:00:14:c3:44:9a:f1,22:00:00:14:c3:44:9a:f1
8 20:00:00:14:c3:44:9b:0b,22:00:00:14:c3:44:9b:0b
9 20:00:00:14:c3:44:9b:7c,22:00:00:14:c3:44:9b:7c

Please select a Target from the list above ('q' to quit): 0 The
following is a list of the initiators that have been mapped to the
selected target and the port that was configured for the initiator to
be presented on in order to access the target.

Target
Index Port Initiator (WWNN,WWPN/iSCSI Name)
----- ------ -------------------------------
0 FC1 iqn.1991-05.com.microsoft:qlogic-09sd5i4l
Please select an Initiator to remove ('q' to quit) : 0

All attribute values for that have been changed will now be saved.
```

Logout

Exits the command line interface and returns you to the login prompt.

Authority None

Keywords **logout**

Examples Logout command example:

```
QRouter (admin) #> logout
(none) login:
```

Password

Changes the guest and administrator passwords.

Authority Admin session

Syntax **password**

Examples Password command example:

```
QRouter (admin) #> passwd
Press 'q' and the ENTER key to abort this command.
Select password to change (0=guest, 1=admin) : 1
account OLD password : ******
account NEW password (6-128 chars) : ******
please confirm account NEW password : ******
Password has been changed.
```

Ping

Verifies the connectivity of each Ethernet port, management, GE1 (iSCSI 1), and GE2 (iSCSI 2).

Authority Admin session

Syntax **ping**

Examples Ping command example:

```
QRouter (admin) #> ping

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

IP Address (IPv4 or IPv6)                 [0.0.0.0]
fe80::217:a4ff:fe99:c279
Iteration Count (0=Continuously)          [0      ] 10
Outbound Port (0=Mgmt, 1=GE1, 2=GE2, ...) [Mgmt   ]
Size Of Packet (Min=1, Max=65486 Bytes)   [56     ]

Pinging fe80::217:a4ff:fe99:c279 with 56 bytes of data:

Request timed out.
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.4ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.3ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.3ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.2ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.3ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.3ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.7ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.2ms
Reply from fe80::217:a4ff:fe99:c279: bytes=64 time=0.2ms

Ping Statistics for fe80::217:a4ff:fe99:c279:
Packets:  Sent  = 10,  Received = 9, Lost = 1
Approximate round trip times in milli-seconds:
Minimum = 0.2ms, Maximum = 0.7ms, Average = 0.3ms
```

Quit

Exits the command line interface and returns you to the login prompt.

Authority None

Syntax **quit**

Examples Quit command example:

```
QRouter (admin) #> quit
(none) login:
```

Reboot

Restarts the router firmware.

Authority Admin session

Syntax **reboot**

Examples Reboot command example:

```
QRouter (admin) #> reboot
Are you sure you want to reboot the System (y/n): y
System will now be rebooted...
```

Remote Map

Maps an initiator and target, one of which is located on a remote system (router). After you enter this command, it prompts you to enter the remote system (router), then lists the devices (initiators and targets) located on the remote system. You can select a device from the remote system and then the local system.

Authority Admin session

Syntax **remotemap**

add
mod
rm

Keywords **add**

Adds a device mapping, initiator to target, one of which is remote.

mod

Modifies an existing remote device mapping.

rm

Removes a remote device mapping.

Examples Remotemap add command example:

```
QRouter (admin) #> remotemap add

The following wizard will create a mapping a device connected to the
local system and a device connected to the selected remote peer
system. If you wish to terminate this wizard before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

Index (System Info, Mgmt IP Address)
----- -----------------------------
0 iSR-6142.0608A00487(172.17.137.215)

Please select a REMOTE system from the list above ('q' to quit) : 0

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:20:00:d0:b2:02:86:d0,21:20:00:d0:b2:02:86:d0 (Init/Tgt)
1 20:21:00:d0:b2:02:86:d0,21:21:00:d0:b2:02:86:d0 (Init/Tgt)
2 20:20:00:d0:b2:02:86:d1,21:20:00:d0:b2:02:86:d1 (Init/Tgt)
3 20:21:00:d0:b2:02:86:d1,21:21:00:d0:b2:02:86:d1 (Init/Tgt)

Please select a LOCAL device from the list above ('q' to quit) : 0

Index (WWNN,WWPN/iSCSI Name)
```

```
----- ----------------------
0 20:00:00:e0:8b:08:5f:3d,21:00:00:e0:8b:08:5f:3d (Initiator)
1 20:00:00:d0:b2:00:19:f0,21:00:00:d0:b2:00:19:f0 (Init/Tgt)

Please select a REMOTE device from the list above ('q' to quit) : 0

NOTE: Both the LOCAL and REMOTE systems do not have the SMART-WRITE
feature, therefore the querying of the SMART-WRITE settings are not
applicable and will be skipped for this mapping. All attribute values
for that have been changed will now be saved.
```

Remotemap add command example with SMART-WRITE licenses:

```
QRouter (admin) #> remotemap add

The following wizard will create a mapping a device connected to the
local system and a device connected to the selected remote peer
system. If you wish to terminate this wizard before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

Index (System Info, Mgmt IP Address)
----- ------------------------------
0 iSR-6142.0608A00471(172.17.137.143)

Please select a REMOTE system from the list above ('q' to quit) : 0

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:01:00:e0:8b:28:5f:3d,21:01:00:e0:8b:28:5f:3d (Initiator)
1 20:00:00:e0:8b:08:5f:3d,21:00:00:e0:8b:08:5f:3d (Initiator)

Please select a LOCAL device from the list above ('q' to quit) : 0

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:00:00:14:c3:3d:d2:bf,22:00:00:14:c3:3d:d2:bf (Target)
1 20:00:00:14:c3:44:9b:86,22:00:00:14:c3:44:9b:86 (Target)
2 20:00:00:14:c3:44:9b:9d,22:00:00:14:c3:44:9b:9d (Target)
3 20:00:00:14:c3:44:9a:fa,22:00:00:14:c3:44:9a:fa (Target)
4 20:00:00:20:37:fd:9c:f7,22:00:00:20:37:fd:9c:f7 (Target)
5 20:00:00:20:37:fd:8a:b0,22:00:00:20:37:fd:8a:b0 (Target)
6 20:00:00:14:c3:3d:cf:80,22:00:00:14:c3:3d:cf:80 (Target)
7 20:00:00:14:c3:44:9a:f1,22:00:00:14:c3:44:9a:f1 (Target)
8 20:00:00:14:c3:44:9b:0b,22:00:00:14:c3:44:9b:0b (Target)
9 20:00:00:14:c3:44:9b:7c,22:00:00:14:c3:44:9b:7c (Target)
10 20:00:00:20:37:fd:8b:ab,22:00:00:20:37:fd:8b:ab (Target)

Please select a REMOTE device from the list above ('q' to quit) : 0
```

```
Smart-Write (0=Enable, 1=Disable) [Enabled ]
Smart-Write Compression (0=Enable, 1=Disable) [Disabled ]
Smart-Write Load Balance (0=Enable, 1=Disable) [Disabled ]
All attribute values for that have been changed will now be saved.
```

Remotemap add command example without SMART-WRITE licenses:

```
QRouter (admin) #> remotemap add

The following wizard will create a mapping a device connected to the
local system and a device connected to the selected remote peer
system. If you wish to terminate this wizard before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

Index (System Info, Mgmt IP Address)
----- ------------------------------
0 iSR-6142.0608A00487(172.17.137.215)
Please select a REMOTE system from the list above ('q' to quit) : 0
Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:20:00:d0:b2:02:86:d0,21:20:00:d0:b2:02:86:d0 (Init/Tgt)
1 20:21:00:d0:b2:02:86:d0,21:21:00:d0:b2:02:86:d0 (Init/Tgt)
2 20:20:00:d0:b2:02:86:d1,21:20:00:d0:b2:02:86:d1 (Init/Tgt)
3 20:21:00:d0:b2:02:86:d1,21:21:00:d0:b2:02:86:d1 (Init/Tgt)

Please select a LOCAL device from the list above ('q' to quit) : 0

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:00:00:e0:8b:08:5f:3d,21:00:00:e0:8b:08:5f:3d (Initiator)
1 20:00:00:d0:b2:00:19:f0,21:00:00:d0:b2:00:19:f0 (Init/Tgt)
Please select a REMOTE device from the list above ('q' to quit) : 0

NOTE: Both the LOCAL and REMOTE systems do not have the SMART-WRITE
feature, therefore the querying of the SMART-WRITE settings are not
applicable and will be skipped for this mapping. All attribute values
for that have been changed will now be saved.
```

Remotemap modify command example with SMART-WRITE licenses:

```
QRouter (admin) #> remotemap mod

The following wizard will be used to modify various settings of a
remote mapping. If you wish to terminate this wizard before reaching
the end of the list press 'q' or 'Q' and the ENTER key to do so.

Index Local Device (WWPN) Remote Device (WWPN)
----- ------------------- --------------------
0 21:00:00:e0:8b:08:5f:3d 22:00:00:20:37:fd:8a:b0
```

```
Please select a remote mapping from the list above ('q' to quit): 0

Smart-Write Compression (0=Enable, 1=Disable) [Disabled ] 1
Smart-Write Load Balance (0=Enable, 1=Disable) [Enabled ] 1
All attribute values for that have been changed will now be saved.
```

Remotemap modify command example without SMART-WRITE licenses:

```
QRouter (admin) #> remotemap mod

The following wizard will be used to modify various settings of a
remote mapping. If you wish to terminate this wizard before reaching
the end of the list press 'q' or 'Q' and the ENTER key to do so.

Index Local Device (WWPN) Remote Device (WWPN)
----- ------------------- --------------------
0 21:20:00:d0:b2:02:86:d0 21:00:00:d0:b2:00:19:f0
1 21:21:00:d0:b2:02:86:d0 21:00:00:d0:b2:00:19:f0
2 21:20:00:d0:b2:02:86:d1 21:00:00:d0:b2:00:19:f0
3 21:21:00:d0:b2:02:86:d1 21:00:00:d0:b2:00:19:f0
4 21:20:00:d0:b2:02:86:d0 21:00:00:e0:8b:08:5f:3d

Please select a remote mapping from the list above ('q' to quit): 0

The SMART-WRITE feature license in not applicable for the selected
mapping. Only mappings with the SMART-WRITE feature can be modified by
this command.
Command aborted.
```

Remotemap remove command example:

```
QRouter (admin) #> remotemap rm

The following wizard will query for attributes before persisting and
activating the updated mapping in the system configuration. If you
wish to terminate this wizard before reaching the end of the list
press 'q' or 'Q' and the ENTER key to do so.

Index Local Device (WWPN) Remote Device (WWPN)
----- ------------------- --------------------
0 21:00:00:e0:8b:08:5f:3d 22:00:00:14:c3:44:9a:fa
Please select a remote mapping from the list above ('q' to quit): 0
All attribute values for that have been changed will now be saved.
```

Remote Peer

Lets you assign a router peer to a local router, which can have up to four peers.

Authority Admin session

Syntax **remotepeer**
add
rm

Keywords **add**

Adds a peer router.

rm

Removes a peer router.

Examples Remotepeer add command example:

```
QRouter (admin) #> remotepeer add

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

REMOTE MGMT port IP Address [0.0.0.0] 172.17.137.143
Contacting REMOTE system (timeout=120 seconds) ...
<Admin> password of REMOTE system: ******
<Admin> password confirmed.
Remote System Information
-------------------------
Product Name iSR-6142
Symbolic Name
Serial Number 0608A00471
HW Version 3
SW Version 2.3.0.1
No. of iSCSI Ports 2
iSCSI Base Name iqn.2004-08.com.qlogic:isr-6142.0608a00471
Mgmt IP Address 172.17.137.143
iSCSI Port 1 IP Address 10.3.5.106
iSCSI Port 1 TCP Port No. 3260
iSCSI Port 2 IP Address 10.3.5.107
iSCSI Port 2 TCP Port No. 3260
Do you wish to create a connection with the REMOTE system (y/n): y
All attribute values for that have been changed will now be saved.
```

Remotepeer remove command example:

```
QRouter (admin) #> remotepeer rm

Index (System Info, Mgmt IP Address)
----- ------------------------------
0 iSR-6142.0608A00487(172.17.137.215)

Please select a remote system from the list above ('q' to quit): 0

WARNING:
Remote mappings exist between the LOCAL system and the selected REMOTE
system. Removing this REMOTE system will also remove these mappings.
Do you wish to continue the 'remotepeer rm' operation (y/n): y All
attribute values for that have been changed will now be saved.
```

Reset Factory

Restores the router configuration parameters to the factory default values. It deletes all LUN mappings, as well as all persistent data regarding targets, LUNs, and initiators. It also restores the factory default IP addresses.

Authority Admin session

Syntax **reset factory**

Examples Reset factory command example:

```
QRouter (admin) #> reset factory

Are you sure you want to restore to factory default settings (y/n): y
Please reboot the System for the settings to take effect.
```

Save

Saves logs and traces.

Authority Admin session

Syntax

save
- capture
- logs
- traces

Keywords

capture

Creates a debug file that captures all debug dump data. After the command completes, you must `ftp` the debug capture file from the router.

logs

Creates a tar file containing the router's log data, storing the file in the router's `/var/ftp` directory. After the command completes, you must ftp the log's tar file from the router.

traces

Creates a tar file containing the router's dump data, storing the tar file in the router's `/var/ftp` directory. After the command completes, you must ftp the trace's tar file from the router. This command notifies you if the router does not have any dump data. The system creates an event log entry whenever it generates dump data.

Examples Save capture command example:

```
QRouter (admin) #> save capture

Debug capture completed. Package is System_Capture.tar.gz

Please use FTP to extract the file out from the System.
```

Save logs command example:

```
QRouter (admin) #> save logs

Save Event Logs completed. Package is Router_Evl.tar.gz

Please use FTP to extract the file out from the System.
```

Save traces command examples:

```
QRouter (admin) #> save traces

Save ASIC Traces completed. Package is Router_Asic_Trace.tar.gz

Please use FTP to extract the file out from the System.

QRouter (admin) #> save traces
No ASIC trace files exist to save. Command aborted.
```

Set

Configures general router parameters as well as parameters that are specific to the Fibre Channel, iSCSI, and management ports.

Authority Admin session

Syntax

set
- chap
- fc [port_num]
- features
- Iscsi [port_num]
- Isns [port_num]
- mgmt
- ntp
- properties
- snmp
- system

Keywords

chap

Sets the CHAP secrets.

fc [port_num]

Sets the Fibre Channel port parameters.

features

Sets licensed router features such as SmartWrite or additional host ports.

iscsi [port_num]

Sets the iSCSI port parameters.

isns [port_num]

Sets the iSNS parameters.

mgmt

Sets the management port parameters.

ntp

Sets the network time protocol (NTP) parameters.

properties

Sets CLI properties.

snmp

Sets the simple network management protocol (SNMP) parameters.

system

Sets system parameters such as symbolic name and log level.

Set CHAP

Configures general router parameters.

Authority Admin session

Syntax **set chap**

Examples Set CHAP command example:

```
QRouter (admin) #> set chap

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0
iqn.2004-08.com.qlogic.isr-6142.0539A01064.0.2000002037fd8bab.2200002
037fd8bab
1
iqn.2004-08.com.qlogic.isr-6142.0539A01064.1.2000002037fd8bab.2200002
037fd8bab

Please select a presented target from the list above ('q' to quit): 0

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

CHAP (0=Enable, 1=Disable) [Disabled]

All attribute values for that have been changed will now be saved.
```

Set FC

Configures a Fibre Channel port.

Authority Admin session

Syntax **set fc [port_num]**

Keywords **[port_num]**

Specifies the number of the FC port to be configured.

Examples Set FC command example:

```
QRouter (admin) #> set fc 1

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

WARNING:
The following command might cause a loss of connections to both ports.

Configuring FC Port: 1
-------------------------
Port Status (0=Enable, 1=Disable) [Enabled ]
Link Rate (0=Auto, 1=1Gb, 2=2Gb, 4=4Gb) [Auto ]
Frame Size (0=512B, 1=1024B, 2=2048B) [2048 ]
Execution Throttle (Min=16, Max=256) [64 ]
Programmed Connection Option:
(0=Loop Only, 1=P2P Only, 2=Loop Pref) [Loop Pref ]

All attribute values for Port 1 that have been changed will now be
saved.
```

Set Features

Lets you enter licensed router features such as SmartWrite or additional host ports.

NOTE:

The date and time must be set prior to entering feature license keys.

Authority Admin session

Syntax **set features**

Examples Set Features command example:

```
QRouter (admin) #> set features

A list of attributes with formatting and current values will follow.

Enter a new value or simply press the ENTER key to accept the current
value.
If you wish to terminate this process before reaching the end of the
list press 'q' or 'Q' and the ENTER key to do so. Enter feature key to
be saved/activated: 1-LCWC6XKAFKC7S-SMART_WRITE

Please reboot the system for these changes to take effect.
```

Set iSCSI

Configures an iSCSI port.

Authority Admin session

Syntax **set iscsi [port_num]**

Keywords **[port_num]**

Specifies the number of the iSCSI port to be configured.

Examples Set iSCSI command example:

```
QRouter (admin) #> set iscsi 1

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

  WARNING:
  The following command might cause a loss of connections to both
ports.

  Configuring iSCSI Port: 1
  ---------------------------
  Port Status (0=Enable, 1=Disable)           [Enabled         ]
  IP Address                                  [0.0.0.0         ]
  Subnet Mask                                 [0.0.0.0         ]
  Gateway IP Address                          [0.0.0.0         ]
  Target TCP Port No. (Min=1024, Max=65535)   [3260            ]
  MTU Size (0=Normal, 1=Jumbo, 2=Other)       [Normal          ]
  Window Size (0=8KB, 1=16KB, 2=32KB)         [32768           ]
  Window Scaling (0=Enable, 1=Disable)        [Enabled         ]
  Window Scaling Factor (Min=0, Max=5)        [1               ]
  Port Speed (0=Auto, 1=100Mb, 2=1Gb)         [Auto            ]
  Header Digests (0=Enable, 1=Disable)        [Enabled         ]
  Data Digests (0=Enable, 1=Disable)          [Enabled         ]
  VLAN (0=Enable, 1=Disable)                  [Disabled        ]
  IPv6 Address 1                              [::              ]
2001::1234
  IPv6 Address 2                              [::              ]
  IPv6 Default Router                         [::              ]
```

```
  IPv6 Tgt TCP Port No. (Min=1024, Max=65535) [3260            ]
  IPv6 Window Scaling (0=Enable, 1=Disable)   [Enabled         ]
  IPv6 Window Scaling Factor (Min=0, Max=5)   [1               ]
  IPv6 VLAN (0=Enable, 1=Disable)             [Disabled        ]

All attribute values for Port 1 that have been changed will now be
saved.
```

Set iSNS

Configures iSNS parameters for an iSCSI port.

Authority Admin session

Syntax **set isns [port_num]**

Keywords **[port_num]**

Specifies the number of the iSCSI port to be configured for iSNS.

Examples Set iSNS command example:

```
QRouter (admin) #> set isns 1

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

Configuring iSNS iSCSI Port: 1
--------------------------------
iSNS (0=Enable, 1=Disable)    [Disabled        ] 0
iSNS Address (IPv4 or IPv6)   [0.0.0.0         ]
fe80::21b:21ff:fe06:d517
TCP Port No.                  [3205            ]

All attribute values for Port 1 that have been changed will now be
saved.
```

Set Mgmt

Configures the router's management port (10/100).

Authority Admin session

Syntax **set mgmt**

Examples Set Mgmt command example:

```
QRouter (admin) #> set mgmt

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

  WARNING:
The following command might cause a loss of connections to the MGMT
port.

  IPv4 Interface (0=Enable, 1=Disable)[Enabled ]
  IPv4 Mode (0=Static, 1=DHCP, 2=Bootp, 3=Rarp)[Dhcp ]
  IPv6 Interface (0=Enable, 1=Disable)[Enabled ]
  IPv6 Mode (0=Manual, 1=AutoConfigure)[Manual ] 1

  All attribute values that have been changed will now be saved.
```

Set NTP

Configures the network time protocol parameters. NTP sets the date and time on the router from a network time server.

Authority Admin session

Syntax **set ntp**

Examples Set NTP command example:

```
QRouter (admin) #> set ntp

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

NTP (0=Enable, 1=Disable) [Enabled ]
TimeZone Offset from GMT (Min=-12hrs,Max=12hrs) [-8 ]
IP Address [0] [0.0.0.0 ] 207.126.97.57
IP Address [1] [0.0.0.0 ]
IP Address [2] [0.0.0.0 ]

All attribute values that have been changed will now be saved.
```

Set Properties

Configures the CLI (command line interface) properties.

Authority Admin session

Syntax **set properties**

Examples Set Properties command example:

```
QRouter (admin) #> set properties

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

CLI Inactivty Timer (0=Disable, 1=15min, 2=60min) [Disabled]
CLI Prompt (Max=32 Characters) [QRouter ] RTR1
All attribute values that have been changed will now be saved.
```

Set SNMP

Configures the general simple network management protocol (SNMP) properties, as well as configuring eight trap destinations.

Authority Admin session

Syntax **set snmp**
trap_destinations

Keywords **trap_destinations**

Specifies the setting of the trap destinations.

Examples Set SNMP command example for setting the general properties:

```
QRouter (admin) #> set snmp

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

Configuring SNMP:
-----------------
Read Community [ ] Public
Trap Community [ ] Private
System Location [ ]
System Contact [ ]
Authentication Traps (0=Enable, 1=Disable) [Disabled ]

All attribute values that have been changed will now be saved.
```

Set SNMP command example for configuring an SNMP trap destination:

```
QRouter (admin) #> set snmp trap_destinations

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

Configuring SNMP Trap Destination 1 :
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ] 0
IP Address [0.0.0.0 ] 10.0.0.5
Destination Port [0 ] 1024

Trap Version [0 ] 2
Configuring SNMP Trap Destination 2 :
```

```
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ]
Configuring SNMP Trap Destination 3 :
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ]
Configuring SNMP Trap Destination 4 :
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ]
Configuring SNMP Trap Destination 5 :
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ]
Configuring SNMP Trap Destination 6 :
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ]
Configuring SNMP Trap Destination 7 :
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ]
Configuring SNMP Trap Destination 8 :
-------------------------------------
Destination enabled (0=Enable, 1=Disable) [Disabled ]
All attribute values that have been changed will now be saved.
```

Set System

Configures the general router parameters.

Authority Admin session

Syntax **set system**

Examples Set System command example:

```
QRouter (admin) #> show system

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

System Symbolic Name (Max = 64 characters) [ ]
System Log Level (Min = 0, Max = 3) [0 ]
All attribute values that have been changed will now be saved.
```

Show

Displays router operational information.

Authority None

Syntax **show**

chap
fc [port_num]
fciproutes [link_id]
features
initiators [fc or iscsi]
iscsi [port_num]
isns [port_num]
localmaps
logs
memory
mgmt
ntp
perf [byte | init_rbyte | init_wbyte | tgt_rbyte | tgt_wbyte]
presented_initiators [fc | iscsi]
presented_targets [fc or iscsi]
properties
remotemaps
remotepeers
snmp
stats
system
targets [fc or iscsi]

Keywords **chap**

Displays Chap information.

fc [port_num]

Displays Fibre Channel port information.

fciproutes [link_id]

Displays FCIP routes in effect and their configuration parameters.

features

Displays installed licenses (port / SmartWrite).

initiators [fc or iscsi]

Displays SCSI initiator information: iSCSI or FC.

iscsi [port_num]

Displays iSCSI port information and configuration.

isns [port_num]

Displays the router's iSCSI name server (iSNS) configuration.

localmaps

Displays local mappings, FC to FC, iSCSI to FC, and FC to iSCSI.

logs

Displays contents of the router logs.

memory

Displays memory managed by router. Includes total and available.

mgmt

Displays the router's management port (10/100) configuration.

ntp

Displays the router's network time protocol (NTP) configuration.

perf

Displays router performance data.

presented_initiators

Displays initiators presented by the router.

presented_targets [fc or iscsi]

Displays targets presented by the router: FC, iSCSI, or both.

properties

Displays the router's CLI (command line interface) properties.

remotemaps

Displays all remote maps that have been configured.

remotepeers

Displays all remote peers.

snmp

Displays the router's simple network management protocol (SNMP) properties and trap configurations.

stats

Displays the router statistics, both FC and iSCSI.

system

Displays router product information including serial number, software version, hardware version, configuration, and temperature.

targets [fc or iscsi]

Displays targets discovered by the router: FC, iSCSI, or both.

Show CHAP

Displays CHAP configuration.

Authority None

Syntax **show chap**

Examples Show CHAP command example:

```
QRouter #> show chap

The following is a list of iSCSI nodes that have been configured with
CHAP 'ENABLED':

Type iSCSI Node
-------- ------------
No entires found.
```

Show FC

Displays Fibre Channel port information for the specified port. If you do not specify the port, it displays both ports.

Authority None

Syntax **show fc [port_num]**

Keywords **[port_num]**

Specifies the number of the FC port to display.

Examples Show FC command example:

```
QRouter (admin) #> show fc
FC Port Information
---------------------
FC Port 1
Port Status Enabled
Link Status Up
Current Link Rate 2Gb
Programmed Link Rate Auto
WWNN 20:00:00:c0:dd:0c:8b:e2
WWPN 21:00:00:c0:dd:0c:8b:e2
Port ID 02-02-ef
Firmware Revision No. 3.03.07
Frame Size 2048
Execution Throttle 64
Connection Mode Loop
Programmed Connection Option Loop Preferred
FC Port 2
Port Status Enabled
Link Status Up
Current Link Rate 2Gb
Programmed Link Rate Auto
WWNN 20:00:00:c0:dd:0c:8b:e3
WWPN 21:00:00:c0:dd:0c:8b:e3
Port ID 02-06-ef
Firmware Revision No. 3.03.07
Frame Size 2048
Execution Throttle 64
Connection Mode Loop
Programmed Connection Option Loop Preferred
```

Show FcipRoutes

Displays FCIP route(s) configuration parameters.

Authority None

Syntax **show fciproutes [link_id]**

Keywords **[link_id]**

Specifies the number of the FCIP route to be displayed (1 or 2).

Examples Show FCIP routes command example:

```
QRouter (admin) #> show fciproutes

  FCIP Route Information
  ----------------------
  FCIP Route                          1
  FCIP Interfaces Status              Enabled
  FCIP Link Status                    Down
  FC Port                             FC1
  GE Port                             GE1
  GE Link Status                      Up
  IPv6 Link Local                     fe80::2c0:ddff:fe0c:8be2
  IPv6 Remote Address                 fe80::21b:21ff:fe06:d517
  MTU Size                            Normal
  TCP Window Size                     32768
  Window Scaling                      Disabled
  TCP Port No                         3225
  GE Port Speed                       Auto
  FCIP Time Stamp                     Enabled
  Error Detect TimeOut                1
  Resource Allocate TimeOut           1
  Bandwidth, Mbit/sec                 1000
  VLAN                                Disabled
  FCIP SW Compression                 Disabled
```

Show Features

Displays the licensed features that have been enabled on the router.

Authority None

Syntax **show features**

Examples Show Features command example:

```
QRouter (admin) #> show features

Feature Key Information
------------------------
Key 7-LC7D9RMLD05XI-iSR-6142 (SMART-WRITE,39_HOSTS,62_HOSTS)
Date Applied Mon Jun 19 10:08:21 2007
```

Show Initiators

Displays SCSI initiator information for iSCSI, FC, or both.

Authority None

Syntax **show initiators**
fc
iscsi

Keywords **fc**

Specifies the display of Fibre Channel initiators.

iscsi

Specifies the display of iSCSI initiators.

Examples Show Initiators command example:

```
QRouter #> show initiators

Initiator Information
----------------------
Initiator Name iqn.1991-05.com.microsoft:qlogic-8qdaqlxt
Alias
IP Address 10.3.5.130
Portal No. 1
Status Logged In
```

Show iSCSI

Displays iSCSI information for the specified port. If you do not specify the port, this command displays both ports.

Authority None

Syntax **show iscsi [port_num]**

Keywords **[port_num]**

Specifies the number of the iSCSI port to display.

Examples Show iSCSI port command example:

```
QRouter (admin) #> show iscsi

  iSCSI Port Information
  ----------------------
  iSCSI Port                1
  Port Status               Enabled
  Link Status               Up
  iSCSI Base Name
iqn.2004-08.com.qlogic:isr-6142.0608a00471.0
  MAC Address               00-c0-dd-0c-8b-e2
  IP Address                0.0.0.0
  Subnet Mask               0.0.0.0
  Gateway IP Address        0.0.0.0
  Firmware Revision No.     3.00.02.44
  No. of Open Connections   0
  Target TCP Port No.       3260
  MTU Size                  Normal
  Window Size               32768
  Window Scaling            Enabled
  Window Scaling Factor     1
  Current Port Speed        1Gb/FDX
  Programmed Port Speed     Auto
  Header Digests            Enabled
  Data Digests              Enabled
  Max Burst                 262144
  Max First Burst           65536
  VLAN                      Disabled
  IPv6 Address 1            ::
  IPv6 Address 2            ::
```

```
  IPv6 Link Local            fe80::2c0:ddff:fe0c:8be2
  IPv6 Default Router        ::
  IPv6 Target TCP Port No.   3260
  IPv6 Window Scaling        Enabled
  IPv6 Window Scaling Factor 1
  IPv6 VLAN                  Disabled

  iSCSI Port                 2
  Port Status                Enabled
  Link Status                Up
  iSCSI Base Name
iqn.2004-08.com.qlogic:isr-6142.0608a00471.1
  MAC Address                00-c0-dd-0c-8b-e3
  IP Address                 0.0.0.0
  Subnet Mask                0.0.0.0
  Gateway IP Address         0.0.0.0
  Firmware Revision No.      3.00.02.44
  No. of Open Connections    0
  Target TCP Port No.        3260
  MTU Size                   Normal
  Window Size                32768
  Window Scaling             Enabled
  Window Scaling Factor      1
  Current Port Speed         1Gb/FDX
  Programmed Port Speed      Auto
  Header Digests             Enabled
  Data Digests               Enabled
  Max Burst                  262144
  Max First Burst            65536
  VLAN                       Disabled
  IPv6 Address 1             ::
  IPv6 Address 2             ::
  IPv6 Link Local            fe80::2c0:ddff:fe0c:8be3
  IPv6 Default Router        ::
  IPv6 Target TCP Port No.   3260
  IPv6 Window Scaling        Enabled
  IPv6 Window Scaling Factor 1
  IPv6 VLAN                  Disabled
```

Show iSNS

Displays iSNS configuration information for the specified iSCSI port. If you do not specify the port, this command displays the iSNS configuration information for both iSCSI ports.

Authority None

Syntax **show isns [port_num]**

Keywords **[port_num]**

Specifies the iSCSI port number whose iSNS configuration you want to display.

Examples Show iSNS command example:

```
QRouter (admin) #> show isns

  iSNS Information
  ------------------
  iSCSI Port     1
  iSNS           Enabled
  IPv6 Address   fe80::21b:21ff:fe06:d517
  TCP Port No.   3205

  iSCSI Port     2
  iSNS           Disabled
  IP Address     0.0.0.0
  TCP Port No.   3205
```

Show Localmaps

Displays all local mappings on the router. Local mappings are mappings between initiator and target devices.

Authority None

Syntax **show localmaps**

Examples Show Localmaps command example:

```
QRouter (admin) #> show localmaps

Local Mappings
----------------
Initiator iqn.1991-05.com.microsoft:qlogic-09sd5i4l
Target 20:00:00:20:37:fd:9c:f7,22:00:00:20:37:fd:9c:f7
Initiator Port GE2
Target Port FC1
Initiator 20:01:00:e0:8b:28:5f:3d,21:01:00:e0:8b:28:5f:3d
Target 20:00:00:00:87:1d:fa:64,22:00:00:00:87:1d:fa:64
Initiator Port FC2
Target Port FC2
```

Show Logs

Displays the router event log.

Authority None

Syntax **show logs**

Examples Show Logs command example:

```
QRouter #> show logs

01/01/2008 00:00:13 System 3 Tuesday 01 January 12:13 AM
01/01/2008 00:00:21 QL4022 3 #0: QLIsrDecodeMailbox: Link up
01/01/2008 00:00:13 System 3 Tuesday 01 January 12:13 AM
01/01/2008 00:00:22 QL4022 3 #0: QLIsrDecodeMailbox: Link up
```

Show Memory

Displays the router's memory usage. If there are no configured FCIP routes, it shows the FCIP memory usage of zero.

Authority None

Syntax **show memory**

Examples Show Memory command example with no FCIP routes configured:

```
QRouter #> show memory

Memory Units Free/Total
-------------- ----------
Physical 15MB/505MB
Buffer Pool 11520/12544
Process Blocks 8192/8192
Request Blocks 8192/8192
Event Blocks 1024/1024
Control Blocks 256/256
FCIP Buffer Pool 0/0
FCIP Request Blocks 16384/16384
```

Show Memory command example with one FCIP route configured:

```
QRouter #> show memory
Memory Units Free/Total
-------------- ----------
Physical 28MB/251MB
Buffer Pool 2176/4224
Process Blocks 4096/4096
Request Blocks 4096/4096
Event Blocks 512/512
Control Blocks 128/128
FCIP Buffer Pool 13320/16384
FCIP Request Blocks 15368/16384
```

Show Mgmt

Displays the router's management port (10/100) configuration.

Authority None

Syntax **show mgmt**

Examples Show Mgmt command example:

```
QRouter (admin) #> show mgmt

  Management Port Information
  ---------------------------
  IPv4 Interface           Enabled
  IPv4 Mode                Dhcp
  IPv4 IP Address          172.17.137.129
  IPv4 Subnet Mask         255.255.254.0
  IPv4 Gateway             172.17.136.1
  IPv6 Interface           Disabled
  Link Status              Up
  MAC Address              00-c0-dd-0c-8b-e1
```

Show NTP

Displays the router's network time protocol (NTP) configuration.

Authority None

Syntax **show ntp**

Examples Show NTP command example:

```
QRouter #> show ntp

NTP Information
-----------------
Mode Disabled
Status Offline
TimeZone Offset (Hours) 0
```

Show Performance

Displays router performance data.

Authority None

Syntax **show perf**

byte
init_rbyte
init_wbyte
tgt_rbyte
tgt_wbyte

Keywords **byte**

Displays data transfer rate of each port (FC and GE).

init_rbyte

Displays initiator read transfer rate per port.

init_wbyte

Displays initiator write transfer rate per port.

tgt_rbyte

Displays target read transfer rate per port.

tgt_wbyte

Displays target write transfer rate per port.

Examples Show Performance (all) command example:

```
QRouter #> show perf

Port Bytes/s Bytes/s Bytes/s Bytes/s Bytes/s
Number (init_r) (init_w) (tgt_r) (tgt_w) (total)
------ -------- -------- -------- -------- --------
GE1 0 0 22M 26M 48M
GE2 0 0 49M 50M 99M
FC1 50M 52M 0 0 103M
FC2 20M 28M 0 0 49M
```

Show Performance byte command example:

```
QRouter #> show perf byte

Displaying bytes/sec (total)... (Press any key to stop display)
GE1 GE2 FC1 FC2
------------------------------
47M 93M 94M 48M
47M 94M 96M 47M
46M 96M 96M 47M
45M 94M 97M 48M
47M 92M 93M 48M
45M 93M 94M 46M
```

Show Presented Initiators

Displays initiators presented by the router: FC.

Authority None

Syntax **show presented_initiators**

Examples Show Presented Initiators command example:

```
QRouter #> show presented_initiators

Presented Initiator Information
--------------------------------
FC Presented Initiators
------------------------
WWNN 20:01:00:c0:dd:0c:8b:e3
WWPN 21:01:00:c0:dd:0c:8b:e3
Port FC2
<MAPS TO>
WWNN 20:01:00:e0:8b:28:5f:3d
WWPN 21:01:00:e0:8b:28:5f:3d
WWNN 20:01:00:c0:dd:0c:8b:e2
WWPN 21:01:00:c0:dd:0c:8b:e2
Port FC1
<MAPS TO>
Name iqn.1991-05.com.microsoft:qlogic-09sd5i4l
```

Show Presented Targets

Displays targets presented by the router: FC, iSCSI, or both.

Authority None

Syntax **show presented_targets**
fc
iscsi

Keywords **fc**

Specifies the display of FC presented targets.

iscsi

Specifies the display of iSCSI presented targets.

Examples Show Presented Targets command example where the interface is not specified:

```
QRouter #> show presented_targets
Presented Target Information
-----------------------------
FC Presented Targets
---------------------
WWNN 20:01:00:c0:dd:0c:8b:e3
WWPN 21:01:00:c0:dd:0c:8b:e3
Port FC2
<MAPS TO>
WWNN 20:00:00:00:87:1d:fa:64
WWPN 22:00:00:00:87:1d:fa:64
iSCSI Presented Targets
------------------------
Name
iqn.2004-08.com.qlogic:isr-6142.0608a00471.1.2200002037fd9cf7.2000002
037fd9cf7
Port GE2
<MAPS TO>
WWNN 20:00:00:20:37:fd:9c:f7
WWPN 22:00:00:20:37:fd:9c:f7
```

The following is an example of the Show Presented FC Targets command:

```
QRouter #> show presented_targets fc
No Presented Targets found.
```

Show Presented iSCSI Targets command example:

```
QRouter #> show presented_targets iscsi

Presented Target Information
----------------------------
iSCSI Presented Targets
-----------------------
Name
iqn.2000-04.com.qlogic:isr6142:0.50001fe150069d20.50001fe150069d2c
IP 10.3.5.66
<MAPS TO>
WWNN 50:00:1f:e1:50:06:9d:20
WWPN 50:00:1f:e1:50:06:9d:2c
Name
iqn.2000-04.com.qlogic:isr6142:1.50001fe150069d20.50001fe150069d2c
IP 10.3.5.67
<MAPS TO>
WWNN 50:00:1f:e1:50:06:9d:20
WWPN 50:00:1f:e1:50:06:9d:2c
Name
iqn.2000-04.com.qlogic:isr6142:0.50001fe150011150.50001fe150011158
IP 10.3.5.66
<MAPS TO>
WWNN 50:00:1f:e1:50:01:11:50
WWPN 50:00:1f:e1:50:01:11:58
Name
iqn.2000-04.com.qlogic:isr6142:1.50001fe150011150.50001fe150011158
IP 10.3.5.67
<MAPS TO>
WWNN 50:00:1f:e1:50:01:11:50
WWPN 50:00:1f:e1:50:01:11:58
```

Show Properties

Displays the router's CLI (command line interface) properties.

Authority None

Syntax **show properties**

Examples Show Properties command example:

```
QRouter #> show properties

CLI Properties
----------------
Inactivty Timer Disabled
Prompt String QRouter
```

Show Remotemaps

Displays all remote maps that have been configured.

Authority None

Syntax **show remotemaps**

Examples Show Remotemaps command example:

```
QRouter #> show remotemaps

Remote Mappings
-----------------
Local Device 20:01:00:e0:8b:28:5f:3d,21:01:00:e0:8b:28:5f:3d
(Initiator)
Remote Device 20:00:00:14:c3:3d:d2:bf,22:00:00:14:c3:3d:d2:bf
(Target)
Local Port FC2
FC1
Remote System iSR-6142.0608A00471(172.17.137.143)
Status Online
Smart-Write Enabled
Compression Disabled
Load Balance Disabled
```

Show Remotepeers

Displays all remote peers.

Authority None

Syntax **show remotepeers**

Examples Show Remotepeers command example:

```
QRouter #> #> show remotepeers

Remote System Information
-------------------------
Product Name iSR-6142
Symbolic Name
Serial Number 0608A00487
HW Version 3
SW Version 2.2.0.4
No. of iSCSI Ports 2
iSCSI Base Name iqn.2004-08.com.qlogic:isr-6142.0608a00487
Mgmt IP Address 172.17.137.215
iSCSI Port 1 IP Address 10.3.5.103
iSCSI Port 1 TCP Port No. 3260
iSCSI Port 2 IP Address 10.3.5.104
iSCSI Port 2 TCP Port No. 3260
```

Show SNMP

Displays the router's simple network management protocol (SNMP) and any configured traps.

Authority None

Syntax **show snmp**

Examples Show SNMP command example:

```
QRouter #> show snmp

SNMP Configuration
------------------
Read Community Public
Trap Community Private
System Location
System Contact
Authentication traps Disabled
System OID 1.3.6.1.4.1.3873.1.5
System Description iSR-6142
Trap Destination 1
------------------
IP Address 10.0.0.5
Trap Port 1024
Trap Version 2
```

Show Stats

Displays the router statistics: FC and iSCSI.

Authority None

Syntax **show stats**

Examples Show Statistics command example:

```
QRouter #> show stats

FC Port Statistics
--------------------
FC Port 1
Interrupt Count 23
Target Command Count 0
Initiator Command Count 0
FC Port 2
Interrupt Count 1717443350
Target Command Count 0
Initiator Command Count 1815115822
iSCSI Port Statistics
-----------------------
iSCSI Port 1
Interrupt Count 3108358287
Target Command Count 1815115673
Initiator Command Count 0
MAC Xmit Frames 54392137663
MAC Xmit Byte Count 61199467593726
MAC Xmit Multicast Frames 0
MAC Xmit Broadcast Frames 0
MAC Xmit Pause Frames 0
MAC Xmit Control Frames 0
MAC Xmit Deferrals 0
MAC Xmit Late Collisions 0
MAC Xmit Aborted 0
MAC Xmit Single Collisions 0
MAC Xmit Multiple Collisions 0
MAC Xmit Collisions 0
MAC Xmit Dropped Frames 0
MAC Xmit Jumbo Frames 0
MAC Rcvd Frames 42061498217
MAC Rcvd Byte Count 60362392962831
MAC Rcvd Unknown Control Frames 0
MAC Rcvd Pause Frames 0
MAC Rcvd Control Frames 0
MAC Rcvd Dribbles 0
MAC Rcvd Frame Length Errors 0
MAC Rcvd Jabbers 0
```

```
MAC Rcvd Carrier Sense Errors 0
MAC Rcvd Dropped Frames 0
MAC Rcvd CRC Errors 0
MAC Rcvd Encoding Errors 0
MAC Rcvd Length Errors Large 1
MAC Rcvd Small Errors Small 0
MAC Rcvd Multicast Frames 34394
MAC Rcvd Broadcast Frames 33144
iSCSI Port 2
Interrupt Count 51604
Target Command Count 0
Initiator Command Count 0
MAC Xmit Frames 0
MAC Xmit Byte Count 0
MAC Xmit Multicast Frames 0
MAC Xmit Broadcast Frames 0
MAC Xmit Pause Frames 0
MAC Xmit Control Frames 0
MAC Xmit Deferrals 0
MAC Xmit Late Collisions 0
MAC Xmit Aborted 0
MAC Xmit Single Collisions 0
MAC Xmit Multiple Collisions 0
MAC Xmit Collisions 0
MAC Xmit Dropped Frames 0
MAC Xmit Jumbo Frames 0
MAC Rcvd Frames 186
MAC Rcvd Byte Count 39260
MAC Rcvd Unknown Control Frames 0
MAC Rcvd Pause Frames 0
MAC Rcvd Control Frames 0
MAC Rcvd Dribbles 0
MAC Rcvd Frame Length Errors 0
MAC Rcvd Jabbers 0
MAC Rcvd Carrier Sense Errors 0
MAC Rcvd Dropped Frames 0
MAC Rcvd CRC Errors 0
MAC Rcvd Encoding Errors 0
MAC Rcvd Length Errors Large 0
MAC Rcvd Small Errors Small 0
MAC Rcvd Multicast Frames 94
MAC Rcvd Broadcast Frames 91
iSCSI Shared Statistics
-----------------------
PDUs Xmited 2729500577
Data Bytes Xmited 55036896842234
PDUs Rcvd 2655246170
Data Bytes Rcvd 0
I/O Completed 1815115669
```

```
Unexpected I/O Rcvd 0
iSCSI Format Errors 0
Header Digest Errors 0
Data Digest Errors 0
Sequence Errors 0
PDU Xmit Count 2729500577
PDU Xmit Count 2729500577
PDU Xmit Count 2729500577
IP Xmit Packets 54392134283
IP Xmit Byte Count 59132566295008
IP Xmit Fragments 0
IP Rcvd Packets 42061430681
IP Rcvd Byte Count 58764046068744
IP Rcvd Fragments 0
IP Datagram Reassembly Count 0
IP Error Packets 0
IP Fragment Rcvd Overlap 0
IP Fragment Rcvd Out of Order 0
IP Datagram Reassembly Timeouts 0
TCP Xmit Segment Count 54392134284
TCP Xmit Byte Count 57389353022514
TCP Rcvd Segment Count 42061430681
TCP Rcvd Byte Count 57418079800284
TCP Persist Timer Expirations 0
TCP Rxmit Timer Expired 116
TCP Rcvd Duplicate Acks 986657165
TCP Rcvd Pure Acks 816265831
TCP Xmit Delayed Acks 3584507
TCP Rcvd Pure Acks 177811024
TCP Rcvd Segment Errors 0
TCP Rcvd Segment Out of Order 1
TCP Rcvd Window Probes 0
TCP Rcvd Window Updates 18500272
TCP ECC Error Corections 0
```

Show System

Displays router product information including the serial number, software version, hardware version, configuration, and temperature.

Authority None

Syntax **show system**

Examples Show System command example:

```
QRouter #> show system

  System Information
  --------------------
  Product Name                    iSR-6142
  Symbolic Name
  Serial Number                   0608A00471
  HW Version 5                    (IPv6 Supported)
  SW Version                      2.4.2.0rc2
  No. of FC Ports                 2
  No. of iSCSI Ports              2
  Temperature (C)                 31
```

Show Targets

Displays targets the router discovered: FC, iSCSI, or both.

Authority None

Syntax **show targets**
fc
iscsi

Keywords **fc**

Specifies the display of FC targets.

iscsi

Specifies the display of iSCSI targets.

Examples Show FC Targets command example:

```
QRouter #> show targets fc

Target Information
------------------
WWNN 50:00:1f:e1:50:01:11:50
WWPN 50:00:1f:e1:50:01:11:58
Port ID 01-0d-00
Portal No. 1
State Online
WWNN 50:00:1f:e1:50:06:9d:20
WWPN 50:00:1f:e1:50:06:9d:2c
Port ID 01-08-00
Portal No. 1
State Online
```

Show iSCSI Targets command example:

```
QRouter #> show targets iscsi

No Targets found.
```

Show VLAN

Displays the router's VLAN configuration.

Authority None

Syntax **show vlan [port_num]**

Keywords **[port_num]**

Specifies the iSCSI port number whose VLAN configuration you want to display.

Examples Show VLAN command example:

```
QRouter #> show vlan

VLAN Information
------------------
Port 1
VLAN Disabled
ID 0
Priority 0
Port 2
VLAN Disabled
ID 0
Priority 0
QRouter #> show vlan 1
VLAN Information
------------------
Port 1
VLAN Disabled
ID 0
Priority 0
```

Shutdown

Performs an orderly shutdown of the router firmware. It does not power down the router.

Authority **Admin session**

Syntax **shutdown**

Examples Shutdown command example:

```
QRouter (admin) #> shutdown
```

Target

Removes targets from the router's database. Typically, you can use this command to remove targets from the database that are no longer connected to the router.

NOTE:

The `target add` command is not currently supported.

Authority Admin session

Syntax

target
add
rm

Keywords

add

Not supported.

rm

Removes a target from the router's target database.

Examples Target add command example:

```
QRouter (admin) #> target add

Command 'target add' is currently not supported.
```

Target rm (remove) command example:

```
QRouter (admin) #> target rm

Index (WWNN,WWPN/iSCSI Name)
----- ----------------------
0 20:00:00:20:37:fd:8b:ab:00:00:00:00:fc:b6:1f:fa
Please select an 'OFFLINE' Target from the list above ('q' to quit): q
Command aborted.
```

Traceroute

Prints the route a network packet takes to the reach the destination specified by the user.

Authority Admin session

Syntax **traceroute**

Examples Traceroute command example:

```
QRouter (admin) #> traceroute

A list of attributes with formatting and current values will follow.
Enter a new value or simply press the ENTER key to accept the current
value. If you wish to terminate this process before reaching the end
of the list press 'q' or 'Q' and the ENTER key to do so.

IP Address (IPv4 or IPv6)                 [0.0.0.0] 172.17.136.18
Outbound Port (0=Mgmt, 1=GE1, 2=GE2, ...) [Mgmt   ]

Tracing route to 172.17.136.18 over a maximum of 30 hops:

1  172.17.136.18       2.3ms       0.2ms       0.2ms
Traceroute completed in 1 hops.
```

Notes

A Log Messages

This appendix provides reference material on messages logged to a file. (For details, see “Show Logs” on page 4-60.)

Log Data

The message log is persistent, maintained across router power cycles and reboots. The three log message categories are:

- Informational
- Error (see page A-10)
- Fatal (see page A-10)

The following sections describe the log message categories.

Informational Log Messages

The following sections list and describe the informational log messages by reporting module:

- “Application Modules” on page A-2
- “iSCSI Driver” on page A-4
- “Fibre Channel Driver” on page A-5
- “User Modules” on page A-6
- “FCIP” on page A-8
- “TOE Driver” on page A-9
- “System” on page A-9

Application Modules

The application modules generate the informational log messages listed in Table A-1 and described following the table.

Table A-1. Application Modules—Informational Log Messages

ID	Log Message	No.
53254	System (router) Booting up	6
53357	QLBA_ProcessTpb: De-compression failed. Disabling compression temporarily	109
54274	QLFC_Login: Origin 0x%x, VP Index 0x%x, Id 0x%x	1026
54275	QLFC_Login: Port ID %.2x%.2x%.2x	1027
54276	QLFC_Login: Node Name %.2x%.2x%.2x%.2x%.2x%.2x%.2x%.2x	1028
54277	QLFC_Login: Port Name %.2x%.2x%.2x%.2x%.2x%.2x%.2x%.2x	1029
54306	QLFC_Logout: Origin 0x%x, VP Index 0x%x, Id 0x%x	1058
54307	QLFC_Logout: Port ID %.2x%.2x%.2x	1059
54308	QLFC_Logout: Node Name %.2x%.2x%.2x%.2x%.2x%.2x%.2x%.2x	1060
54309	QLFC_Logout: Port Name %.2x%.2x%.2x%.2x%.2x%.2x%.2x%.2x	1061
54359	QLFC_HandleTeb: FC Login. VP 0x%x	1111
54368	QLFC_CreateVirtualInitiatorObject: Maximum host (%d) limit reached.	1120
54938	QLIS_HandleTeb: UTM_EC_OPEN_CONNECTION	1690
54939	QLIS_HandleTeb: UTM_EC_CLOSE_CONNECTION or UTM_EC_CONNECTION_CLOSED	1691
54940	QLIS_HandleTeb: UTM_EC_CONNECTION_OPENED	1692
54941	QLIS_HandleTeb:iSNS Server Open Connection succeeded	1693
54943	QLIS_HandleTeb: UTM_EC_ISNS_SCN	1695
54945	QLIS_HandleTeb: UTM_EC_ISNS_CLIENT_DISCOVERED	1697
54947	QLIS_HandleTeb: UTM_EC_CLOSE_CONNECTION	1699
54948	QLIS_HandleTeb: UTM_EC_CONNECTION_CLOSED	1700

Table A-1. Application Modules—Informational Log Messages (Continued)

ID	Log Message	No.
54963	QLIS_SetDdbEntryContinue:[%d:%d] Remote system connection established	1715
54986	QLIS_HandleSessionTimer: Re-enabling compression	1738
55299	QLSC_CollectBUVUIO: Freeing dead TRB: State 0x%02X, AbortReason %d, Flags 0x%02X	2051

6	Router is booting up.
109	De-compression failed and will be temporarily disabled.
1026	FC login occurred, origin xx (1 = HBA, 2 = target, 3 = initiator), VP (virtual port) xx, ID (loop ID) xx.
1027	FC login occurred with port ID xx.xx.xx.
1028	FC login occurred with WWNN xx.xx.xx.xx.xx.xx.xx.xx.
1029	FC login occurred with WWPN xx.xx.xx.xx.xx.xx.xx.xx.
1058	FC logout occurred, origin xx (1 = HBA, 2 = target, 3 = initiator), VP (virtual port) xx, ID (loop ID) x.
1059	FC logout occurred with port ID xx.xx.xx.
1060	FC logout occurred with WWNN xx.xx.xx.xx.xx.xx.xx.xx.
1061	FC logout occurred with WWPN xx.xx.xx.xx.xx.xx.xx.xx.
1111	FC login event notification, VP (virtual port) xx.
1120	Maximum number of support hosts dd has been reached.
1690	Event notification: iSCSI open connection request.
1691	Event notification: iSCSI close connection request or connection closed.
1692	Event notification: iSCSI connection opened.
1693	Event notification: connection opened with iSNS server.
1695	Event notification: iSNS SCN received.
1697	Event notification: iSNS client discovered.
1699	iSCSI close connection request received.

1700	iSCSI connection closed.
1715	Remote system connection established using DDB d:d.
1738	Re-enabling compression.
2051	TRB freed, State xx, Abort Reason d, Flags xx.

iSCSI Driver

The following informational log messages are common to both iSCSI ports: 1 (GE1) and 2 (GE2). The messages are listed in Table A-2 and described following the table. Log messages beginning with #0 denote iSCSI port 1 (GE1) and log messages beginning with #1 denote iSCSI port 2 (GE2).

Table A-2. iSCSI Driver—Informational Log Messages

ID	Log Message	No.
86343	#%d: QLPortUp: Set link configuration 0x%x	327
86347	#%d: QLDisable: Restart RISC	331
86349	#%d: QLEnable: Restart RISC to update EEPROM	333
86352	#%d: QLPortDown: Set link configuration 0x%x	336
86874	#%d: QLIsrDecodeMailbox: Link up	858

327	iSCSI port enabled, port up.
331	Restart iSCSI processor (RISC).
333	EEPROM updated, restart iSCSI processor (RISC).
336	iSCSI port disabled, port down.
858	Link up reported by iSCSI processor for GE1 or GE 2.

Fibre Channel Driver

The following informational log messages are common to both Fibre Channel ports: 1 (FC1) and 2 (FC2). The messages are listed in Table A-3 and described following the table. Log messages beginning with #0 denote Fibre Channel port 1 (FC1). Log messages beginning with #1 denote Fibre Channel port 2 (FC2).

Table A-3. Fibre Channel Driver—Informational Log Messages

ID	Log Message	No.
118882	#%d: QLIoctlDisable: Reset adapter	98
119088	#%d: QLIsrEventHandler: LIP occurred (%x): mailbox1 = %x	304
119089	#%d: QLIsrEventHandler: LIP reset occurred (%x): mailbox1 = %x	305
119090	#%d: QLIsrEventHandler: Link up (%x) mailbox1 = %x	306
119092	#%d: QLIsrEventHandler: Link mode up (%x): RunTimeMode=%x	308
119093	#%d: QLIsrEventHandler: RSCN update (%x) rscnInfo: %x	309
119097	#%d: QLIsrEventHandler: Port update (%x) mb1-3 %x %x %x	313
119552	#%d: QLFcipIsrEventHandler: Link up (%x) mailbox1 = %x	768
119553	#%d: QLFcipIsrEventHandler: Link down (%x)	769
119554	#%d: QLFcipIsrEventHandler: Link mode up (%x)	770

98	Request to reset the FC processor (adapter) received from IOCTL interface.
304	Fibre Channel loop initialization procedure (LIP) occurred. The LIP type is reported, as is the contents of the FC processor's mailbox 1 register.
305	Fibre Channel LIP reset occurred. The LIP reset type is reported, as is the contents of the FC processor's mailbox 1 register.
306	Fibre Channel link up occurred. Event status is reported, as is the contents of the FC processor's mailbox 1 register.
308	Fibre Channel link up occurred. Event status is reported, as is the RunTimeMode (0 = loop, 1 = point-to-point).
309	A RSCN was received. Event status is reported, as is the RSCN information.
313	Fibre Channel port update. Event status is reported, as is the contents of the FC processor's mailbox 1, 2, and 3 registers.

768	FCIP - Fibre Channel link up occurred. Event status is reported, as is the contents of the FC processor's mailbox 1 register.
769	FCIP - Fibre Channel link down occurred.
770	FCIP - Fibre Channel link up occurred. Event status is reported, as is the RunTimeMode (0 = loop, 1 = point-to-point).

User Modules

The user modules generate the log messages listed in Table A-4 and described in the following table.

Table A-4. User Modules—Informational Log Messages

ID	Log Message	No.
151842	FW Upgrade performed: new version is: %d.%d.%d.%d	290
151843	REBOOT/SHUTDOWN Command from user. Code=%d	291
151889	#%d: qapisetfcinterfaceparams_1_svc: FC port configuration changed	337
151890	#%d: qapisetiscsiinterfaceparams_1_svc: iSCSI port configuration changed	338
151891	#%d: qapisetisns_1_svc:iSNS configuration changed	339
151892	qapisetntpparams_1_svc: NTP configuration changed	340
151893	#%d: qapisetvlanparams_1_svc: VLAN configuration changed	341
151896	qapisetmgmintfcparams_1_svc:Management port configuration changed	344
151897	qapisetbridgebasicinfo_1_svc:Bridge configuration changed	345
151898	qapimapremote_1_svc: Remotemap added for local device %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	346
151899	qapimapremote_1_svc: Remotemap added to remote device %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	347
151900	qapiunmapremote_1_svc: Remotemap removed for local device %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	348
151901	qapiunmapremote_1_svc: Remotemap removed to remote device %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	349
151902	qapimaptargettoinitiator_1_svc: Localmap added for initiator %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	350

Table A-4. User Modules—Informational Log Messages (Continued)

ID	Log Message	No.
151903	qapimaptargettoinitiator_1_svc: Localmap added to target device %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	351
151904	qapiunmaptargettoinitiator_1_svc: Localmap removed for initiator device %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	352
151905	qapiunmaptargettoinitiator_1_svc: Localmap removed to target device %.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x:%.2x	353
151906	qapimaptargettoinitiator_1_svc: Localmap added for initiator %s	354
151907	qapiunmaptargettoinitiator_1_svc: Localmap removed for initiator %s	355
151908	GE%d: Port status changed by user to ENABLED.	356
151909	GE%d: Port status changed by user to DISABLED.	357
151910	FC%d: Port status changed by user to ENABLED.	358
151911	FC%d: Port status changed by user to DISABLED.	359
152069	qapisetfcipparams_1_svc: FCIPROUTE %d Added	517
152070	qapisetfcipparams_1_svc: FCIPROUTE %d Modified	518
152071	qapisetfcipparams_1_svc: FCIPROUTE %d Removed	519

290	Performed router firmware upgrade, new version number is d.d.d.d.
291	User performed a router reboot or shutdown.
337	FC port configuration has been modified.
338	iSCSI port configuration has been modified.
339	iSNS configuration has been modified.
340	NTP configuration has been modified.
341	VLAN configuration has been modified.
344	Management Ethernet port configuration has been modified.
345	Router configuration has been modified.
346	Remotemap added for local FC device WWPN xx.xx.xx.xx.xx.xx.xx.xx.
347	Remotemap added for remote FC device WWPN xx.xx.xx.xx.xx.xx.xx.xx.

348	Remotemap removed for local FC device WWPN xx.xx.xx.xx.xx.xx.xx.xx.
349	Remotemap removed for remote FC device WWPN xx.xx.xx.xx.xx.xx.xx.xx.
350	Localmap added for FC initiator WWPN xx.xx.xx.xx.xx.xx.xx.xx.
351	Localmap added to FC target device WWPN xx.xx.xx.xx.xx.xx.xx.xx.
352	Localmap removed for FC initiator.
353	Localmap removed to FC target device.
354	Localmap added for iSCSI initiator "iqn.dddd-dd.ttt.ttt.ttt.....".
355	Localmap removed for iSCSI initiator "iqn.dddd-dd.ttt.ttt.ttt.....".
356	User enabled GE port d.
357	User disabled GE port d.
358	User enabled FC port d.
359	User disabled FC port d.
517	FCIP route #d added.
518	FCIP route #d modified.
519	FCIP route #d removed.

FCIP

The FCIP module generates the informational log messages listed in Table A-5 and described following the table.

Table A-5. FCIP—Informational Log Messages

ID	Log Message	No.
184524	qlFcip_Linkchange#%d: GigE Link Down	204
184525	qlFcip_Linkchange#%d: GigE Link Up	205

204	FCIP Route GigE link d (1 or 2) is down.
205	FCIP Route GigE link d (1 or 2) is up.

TOE Driver

The TOE driver generates the informational log messages listed in Table A-6 and described following the table.

Table A-6. TOE—Informational Log Messages

ID	Log Message	No.
217350	QL3022:eth%x: Interface is down	262

262 The GigE interface d (0 or 1) used for an FCIP route is down.

System

The system modules generate the informational log messages listed in Table A-7 and described following the table.

Table A-7. System—Informational Log Messages

ID	Log Message	No.
249862	“Temperature is back to normal range %d\n"	6

6 The router temperature has returned to the normal operating range and is d (C).

Error Log Messages

The following sections list and describe the error log messages by reporting module:

- "Application Modules" on page A-10
- "iSCSI Driver" on page A-18
- "Fibre Channel Driver" on page A-20
- "User Modules" on page A-22
- "System" on page A-25

Application Modules

The application modules generate the error log messages listed in Table A-8 and described following the table.

Table A-8. Application Module—Error Log Messages

ID	Log Message	No.
40967	QLBA_NullDoorbell: driver unloaded, port disabled	7
40996	QLBA_ProcessTrb: Processing unsupported ordered tag command	36
41004	QLBA_ProcessTrb: Processing unsupported head of queue tag command	44
41058	QLBA_CreateTargetDeviceObject: Too many devices	98
41060	QLBA_CreateTargetNodeObject: Too many devices	100
41067	QLBA_CreateLunObject: LunObject memory unavailable	107
41077	QLBA_CreateInitiatorObject: Too many initiators	117
41096	QLBA_DisplayTargetOperationStatus: PCI Error, Status 0x%.2x	136
41106	QLBA_DisplayInitiatorOperationStatus: DMA Error, Status 0x%.2x	146
41107	QLBA_DisplayInitiatorOperationStatus: Transport Error, Status 0x%.2x	147
41111	QLBA_DisplayInitiatorOperationStatus: Data Overrun, Status 0x%.2x	151
41234	QLIS_LoginPduContinue: Operation failed. Initiator 0x%x, TPB status 0x%x	274
41238	QLKV_ValidateLoginTransitCsgNsgVersion failed (status 0x%x)	278

Table A-8. Application Module—Error Log Messages (Continued)

ID	Log Message	No.
41257	QLIS_LoginPduContinue: Invalid initiator name. Initiator:	297
41265	QLIS_LoginPduContinue: Target not configured for Portal	305
41267	QLIS_LoginPduContinue: Target not found. Target name:	307
41268	QLIS_LoginPduContinue: Missing target name	308
41270	QLIS_LoginPduContinue: TSIH is 0 but InitiatorName key/value not provided	310
41272	QLIS_LoginPduContinue: CONN_STATE_IN_LOGIN, Unknown InitTaskTag	312
41283	QLIS_LoginPduContinue: TSIH 0x%x out of range	323
41284	QLIS_LoginPduContinue: Session does not exist, invalid TSIH 0x%x	324
41353	QLIS_LoginPduContinue CHAP Validation Failure	393
41354	QLIS_LoginPduContinue Unexpected CHAP key detected	394
41508	QLBI_SetPortInfo: QLUT_AllocatePortalObject failed (PortType 0x%x, PortId 0x%x)	548
41626	QLBI_GetLunInfo: INQUIRY failed, TPB status 0x%x	666
41629	QLBI_GetLunInfo: QLBI_PassthruCommand failed for INQUIRY (page code 0x83)	669
41635	QLBI_GetLunInfo: QLBI_PassthruCommand failed for READ CAPACITY	675
41636	QLBI_GetLunInfo: READ CAPACITY failed, TPB status 0x%x	676
41696	QLBI_PassthruCommandCompletion: Passthru command aborted	736
41700	QLBI_Passthru: Invalid CDB length %d bytes	740
41701	QLBI_Passthru: Invalid data length %d bytes	741
41717	QLBI_PassthruCommand: command interrupted or timed out	757
41750	QLBI_Ioctl: ERROR: Operation (0x%x) not supported in this mode	790
41768	QLBI_GetLunList: REPORT LUNS command failed	808
41769	QLBI_GetLunList: REPORT LUNS command failed with CHECK CONDITION, SCSI STATUS 0x%02X	809

Table A-8. Application Module—Error Log Messages (Continued)

ID	Log Message	No.
41771	QLBI_GetLunList: Lun allocation failed for LunId %d	811
41994	QLFC_Login: VpIndex (%d) out of range	1034
41995	QLFC_Login: VP Index 0x%x not configured	1035
42002	QLFC_Login: Can't open connection	1042
42024	QLFC_Logout: No active path to device. WWPN: %.2X%.2X%.2X%.2X%.2X%.2X%.2X%.2X	1064
42027	QLFC_Logout: VP Index 0x%x not configured	1067
42068	QLFC_HandleTeb: System Error	1108
42069	QLFC_HandleTeb: Driver Fatal Error	1109
42072	QLFC_HandleTeb: FC Logout	1112
42242	QLIS_AllocateSessionObject: Out of session resources	1282
42252	QLIS_EnqueueiScsiPdu: Duplicate PDU, CmdSN %d (0x%x), dropping it	1292
42258	QLIS_InstantiateSession: Can't add Initiator to the database	1298
42404	QLIS_ProcessStartTrb: [%d] CmdSN %ld is out of range (%ld - %ld), Cdb[0] 0x%02X, DataXferLen 0x%x.	1444
42648	QLIS_HandleTeb: Driver Fatal Error	1688
42649	QLIS_HandleTeb: Unload Driver	1689
42654	QLIS_HandleTeb: iSNS Connection Failed	1694
43012	QLSC_CollectBUVUIO: Allocation of DSD failed	2052
43013	QLSC_CollectBUVUIORecover: Allocation of DSD failed	2053
43265	QLUT_AllocateTpbExtension: TPB allocation failed	2305
43267	QLUT_AllocateTpbExtension: Data buffer allocation failed (length %d)	2307
43268	QLUT_AllocateTpbExtension: Alloc of DSD failed for buffer len %d	2308
43269	QLFCIP_IncomingFrame: BUGCHECK: Trb (0x%p) ValidFlag (0x%x) Direction (0x%x)	2309
43270	QLFCIP_IncomingFrame: GetFcipMapPortal failed	2310

Table A-8. Application Module—Error Log Messages (Continued)

ID	Log Message	No.
43271	QLFCIP_IncomingFrame: Got Status aborted pTrb->pBufDescList[0]:%p Trb Direction:0x%x	2311
43272	QLFCIP_SystemError: System error	2312
43273	QLFCIP_SystemError: QLOP_IssuePortEnable failed	2313
43280	QLFCIP_HandleTeb: Driver Fatal error	2320
43281	QLFCIP_ConfigPortal: Find portal object failed for QLUT_TYPE_FC, PortId (%d)	2321
43282	QLFCIP_ConfigPortal: QLFCIP_ConfigPortal: Invalid PortId for FCIP link PortID(%d)	2322
43283	QLUT_AllocateFcipTrbPool: Allocation failed (size 0x%x))	2323
43284	QLUT_GetFcipTrb: Null portal object in map table	2324
43285	QLUT_GetFcipTrb: Unable to get the Free Trb	2325
43286	QLUT_GetFcipTrb: Duplicate allocation of FcipTrb (0x%p)	2326
43287	QLUT_FreeFcipTrb: Null portal object in map table	2327
43288	QLUT_FreeFcipTrb: Duplicate Free of FcipTrb (0x%p)	2328
43289	QLUT_InitializeFcipBufDescPool: Memory allocation for FCIP_BUF_EXT_DESC failed (size 0x%x)	2329
43296	QLUT_FreeFcipDataBuffers: Duplicate Freeing of DataBuf (0x%p)	2336
43297	QLUT_AllocateFcipDataBuffers: Duplicate allocation of DataBuffer (0x%p)	2337
43298	QLUT_AllocateFcipDataBuffer: Got NULL PORTAL Object in map table MEM LEAK!!!!!	2338
43299	QLUT_DeallocateFcipDataBuffer: Null portal object in map table	2339
43300	QLUT_CreateFcipDataBufferpool: Allocation of 32K buffers from LargeBufferPool failed	2340
43521	QLSC_BreakupVUIOAllocPhase: TPB allocation failed	2561
43522	QLSC_BreakupVUIOAllocPhase: Data buffer and TPB allocation failed	2562

7	NULL doorbell routine for unloaded drivers. When a driver is unloaded, the doorbell routine is redirected to this NULL routine.
36	Processing unsupported ordered tag task management command.
44	Processing unsupported head-of-queue task management command.
98	Unable to create an object for the target device: exceeded the maximum number of target devices.
100	Unable to create an object for the target node: exceeded the maximum number of target devices.
107	Memory unavailable for LUN object.
117	Unable to create an object for initiator object: exceeded the maximum number of initiators.
136	Process control block status indicates that a PCI error occurred during a target operation.
146	Process control block status indicates that a DMA error occurred during an initiator operation.
147	Process control block status indicates that a transport error (protocol) occurred during an initiator operation.
151	Process control block status indicates that a data overrun error occurred during an initiator operation.
274	iSCSI login failed between receipt of PDU and request for the data segment.
278	iSCSI login failed due to unsupported version number in received login PDU.
297	iSCSI Login PDU contains invalid initiator name. The format and character set used to form the initiator name is invalid.
305	iSCSI target login was attempted to a portal (iSCSI1 or iSCSI2) on which the target is not presented.
307	iSCSI Login PDU received for a target with a target name unknown to the router.
308	iSCSI Login PDU received without a target name for a normal session.
310	iSCSI Login PDU received without an initiator name key/value.
312	iSCSI Login PDU received with an incorrect initiator task tag for a session which is partially logged in. This would occur if a login PDU other than the initial login PDU used an initiator task tag which was different than the initiator task tag provided in the initial login PDU.

323	iSCSI Login PDU was received with a TSIH out of range. This would occur if the iSCSI initiator attempting the login failed to used the TSIH value provided in the Target Login Response PDU (router is target) in subsequent login PDUs.
324	iSCSI Login PDU was received with an invalid TSIH value. The TSIH is invalid because there is no session with that TSIH value. This would occur if the iSCSI initiator attempting the login failed to used the TSIH value provided in the target login response PDU (router is target) in subsequent login PDUs.
393	CHAP validation failed during login.
394	Unexpected CHAP key.
548	Failed to allocate an object for *Set Port Info* IOCTL processing: PortType: 0 = FC, 1 = iSCSI PortId: 0 = FC1 or iSCSI1(GE1), 1 = FC2 or iSCSI2 (GE2)
666	Inquiry command failed. The Inquiry command was issued by the router as part of its discovery process.
669	Pass-Through command for Inquiry command for page 83 failed. The Inquiry command was issued by the router as part of its discovery process.
675	Pass-Through command for Read Capacity command failed. The Read Capacity command was issued by the router as part of its discovery process.
676	Read Capacity command failed. The Read Capacity command was issued by the router as part of its discovery process.
736	Pass-Through command issued by management application (such as Router Manager) was aborted.
740	Pass-Through command issued by management application (such as Router Manager) failed due to invalid CDB length.
741	Pass-Through command issued by management application (such as Router Manager) failed due to invalid data length.
757	Pass-Through command issued by management application (such as Router Manager) was interrupted or timed out.
790	IOCTL operation unsupported. Operation code provided in log message.
808	Report LUNs command failed. The Report LUNs command was issued by the router as part of its discovery process.
809	Report LUNs command failed with check condition status. The Report LUNs command was issued by the router as part of its discovery process.
811	Failed to allocate LUN object: out of resources.

1034	Login attempted using Fibre Channel virtual port (VP) index that is out-of-range (range = 0–31). Index reported in log message.
1035	Login attempted using Fibre Channel VP index that has not been configured. Operation attempted on an unconfigured VP.
1042	Attempting login but Fibre Channel connection cannot be opened.
1064	Attempting logout of device for which there is no active path (WWPN not found).
1067	Logout attempted using Fibre Channel VP index that has not been configured. Operation attempted on an unconfigured VP.
1108	Event notification: Fibre Channel processor encountered a system error (unrecoverable firmware error).
1109	Event notification: Fibre Channel driver encountered a fatal error.
1112	Event notification: Fibre Channel port logged out.
1282	Failed to allocate object for iSCSI session: out of session resources.
1292	Received iSCSI PDU with duplicate command sequence number (CmdSN). Command PDU will be dropped.
1298	Unable to allocate iSCSI initiator object while instantiating session.
1444	Failed to execute iSCSI Command PDU because its CmdSN is out-of-range. Log message contains the incorrect CmdSN, the valid CmdSN range, the first byte of the CDB, and the data length.
1688	Event notification: iSCSI driver encountered a fatal error.
1689	Event notification: an IOCTL request was received to unload the iSCSI driver.
1694	Event notification: attempt to connect to the iSNS server failed.
2052	iSNS connection failed.
2053	Break up I/O DSD allocation failed.
2305	Break up I/O recover DSD allocation failed.
2307	Data buffer allocation failed (length %d) during tpb extension allocation.
2308	Allocation of DSD failed during Tpb extension allocation. Buffer length %d.
2309	FCIP incoming frame: BUGCHECK: Trb (0x%p) ValidFlag (0x%x) Direction (0x%x).
2310	FCIP incoming frame: GetFcipMapPortal failed.

2311	FCIP incoming frame: Got Status aborted pTrb->pBufDescList[0]:%p Trb Direction:0x%x.
2312	FCIP system error.
2313	FCIP system error: QLOP_IssuePortEnable failed.
2320	FCIP handle Teb: Driver Fatal error.
2321	FCIP configure portal: Find portal object failed for QLUT_TYPE_FC, PortId (%d).
2322	FCIP configure portal: QLFCIP_ConfigPortal: Invalid PortId for FCIP link PortID(%d).
2323	FCIP allocate TRB pool: Allocation failed (size 0x%x).
2324	FCIP Trb: Null portal object in map table.
2325	FCIP get TRB: Null portal object in map table.
2326	FCIP get TRB: Duplicate allocation of FcipTrb (0x%p).
2327	FCIP free TRB: Null portal object in map table.
2328	FCIP free TRB: Duplicate Free of FcipTrb (0x%p).
2329	FCIP initialize buffer descriptor pool: memory allocation for FCIP_BUF_EXT_DESC failed (size 0x%x).
2336	FCIP free data buffers: Duplicate Freeing of DataBuf (0x%p).
2337	FCIP allocate data buffers: Duplicate allocation of DataBuffer (0x%p).
2338	FCIP allocate data buffer: Got NULL PORTAL Object in map table MEM LEAK.
2339	FCIP de-allocate data buffer: Null portal object in map table.
2340	FCIP create data buffer pool: Allocation of 32K buffers from LargeBufferPool failed.
2561	Break up I/O: TPB allocation failed.
2562	Break up I/O: Data buffer and TPB allocation failed.

iSCSI Driver

The following error log messages are common to both iSCSI ports, 1 (GE1) and 2 (GE2). They are listed in Table A-9 and described following the table. Log messages beginning with #0 denote iSCSI port 1 (GE1). Log messages beginning with #1 denote iSCSI port 2 (GE2).

Table A-9. iSCSI Driver—Error Log Messages

ID	Log Message	No.
73990	#%d: QLUtmIoctlEnable: Initialize FW failed	262
74046	#%d: QLPortUp: MBOX_CMD_SET_PORT_CONFIG %04x failed %04x	318
74056	#%d: QLRunDiag: MBOX Diag test internal loopback failed %x %x	328
74057	#%d: QLRunDiag: MBOX Diag test external loopback failed %x %x	329
74065	#%d: QLPortDown: MBOX_CMD_SET_PORT_CONFIG %04x failed %04x	337
74241	#%d: QLiSNSEnableCallback: iSNS Server TCP Connect failed	513
74577	#%d: QLIsrDecodeMailbox: NVRAM invalid	849
74587	#%d: QLIsrDecodeMailbox: Link down	859
74656	#%d: QLReadyTimer: Adapter missed heartbeat for %d seconds. Time left %d	928
74661	#%d: QLTimer: Abort pTpb=%p, Type %x, Timeout 0x%x DrvCount 0x%x, DdbIndex 0x%x	933
74663	#%d: QLReadyTimer: MBOX_CMD %04x %04x %04x %04x %04x %04x %04x %04x timed out	935
74665	#%d: QLReadyTimer: QLiSNSReenable failed	937
74784	#%d: QLUpdateInitiatorData: No more room in Initiator Database	1056
74800	#%d: QLSetTargetData: No more room in Target Database	1072

262	The iSCSI processor failed firmware initialization.
318	The iSCSI processor command to enable a GE port failed.
328	The iSCSI processor failed the internal loopback test.

329	The iSCSI processor failed the external loopback test.
337	The iSCSI processor command to disable a GE port failed.
513	The iSCSI processor could not connect with the iSCSI name server (iSNS).
849	The iSCSI processor reported that the iSCSI port NVRAM contains invalid data (checksum error).
859	The iSCSI processor reported a link down condition.
928	The driver failed to receive a heartbeat from the iSCSI processor for the specified number of seconds.
933	The driver timed out an iSCSI processor operation and is aborting the operation.
935	The driver timed out an iSCSI processor mailbox command.
937	The driver timed out while attempting to reconnect with the iSNS.
1056	The driver's initiator database is full. The driver is capable of storing 1024 iSCSI initiators in its database. Use the CLI or Router Manager to remove unwanted/unused iSCSI initiators.
1072	The driver's target database is full. Use the CLI or Router Manager to remove unwanted/unused iSCSI targets.

Fibre Channel Driver

The following error log messages are common to both Fibre Channel ports, 1 (FC1) and 2 (FC2). They are listed in Table A-10 and described in this section. Log messages beginning with #0 denote Fibre Channel port 1 (FC1) and log messages beginning with #1 denote Fibre Channel port 2 (FC2).

Table A-10. Fibre Channel Driver—Error Log Messages

ID	Log Messages	No.
106583	#%d: QLUtmReceiveIo: Path invalid/FW No resource count %x	87
106589	#%d: QLIoctlEnable: Adapter disabled	93
106590	#%d: QLIoctlEnable: Initialize FW error	94
106592	#%d: QLIoctlRunDiag: Diagnostic loopback command failed %x % %x %x	96
106593	#%d: QLIoctlDisable: Re-initialize adapter failed	97
106595	#%d: QLUtmReceiveIo: Invalid VP Loop Id 0x%x	99
106803	#%d: QLIsrEventHandler: Link down (%x)	307
106813	#%d: QLIsrEventHandler: Unexpected async event (%x), MB1=%x, MB2=%x, MB3=%x, MB4=%x, MB5=%x, MB6=%x, MB7=%x	317
106846	#%d: QLProcessResponseQueueFS: TRB is NULL: %d	350
106853	#%d: QLTimer: Link error count (0x%x) exceeded, link down	357
106912	#%d: QLReserveLoopId: out of loop Ids	416
106928	#%d: QLMarkDeviceOffline: Device Id: %x marked offline, cLinkDownTimeout = %x, cPortDownRetryCount=%x	432
106948	#%d: QLSnsGetAllNext: Name server login FAILED %x	452
107029	#%d: QLUpdateDeviceData: out of slots in host database	533
107030	#%d: QLUpdateDeviceData: out of slots in target database	534
107041	#%d: QLUpdateDeviceDatabase 0x%x: GET_ID failed %x	545
107056	#%d: QLUpdateDeviceDatabase 0x%x: out of slots in host database	560
107058	#%d: QLUpdateDeviceDatabase 0x%x: MBOX_CMD_GET_VP_DATABASE failed %x	562
107078	#%d: QLUpdatePort 0x%x: out of slots in host database	582

Table A-10. Fibre Channel Driver—Error Log Messages (Continued)

ID	Log Messages	No.
107254	#%d: QLUpdateSinglePortCont 0x%x: out of slots in host database	758
107267	#%d: QLFcipIsrEventHandler: System error event (%x), MB1=%x, MB2=%x, MB3=%x, MB4=%x, MB5=%x, MB6=%x, MB7=%x	771

87	The FC processor received a SCSI command for an unknown target path or has run out of resources to execute additional commands.
93	The FC processor was disabled by an IOCTL request to the driver.
94	The FC processor firmware failed initialization. The request to initialize was received by the driver in an IOCTL request.
96	The FC processor failed the external loopback test.
97	The FC processor failed to re-initialize in response to an IOCTL disable request.
99	Invalid Virtual Port loop ID.
307	The FC processor reported a link down condition.
317	The FC processor reported an unexpected asynchronous event. The mailbox registers provide status, event code, and data related to the event.
350	FCIP Response queue entry TRB pointer is NULL.
357	The driver has determined that the FC link is unreliable and unusable due to the number of errors encountered. The link has been taken down.
416	The FC processor was unable to obtain the number of loop IDs required. This failure occurs only when the FC processor is running multi-ID firmware.
432	The driver was unable to re-establish connection to the target within the timeout and retry counts, and is therefore marking it *offline*.
452	The FC processor is unable to log into the FC fabric name server.
533	The driver’s host (initiator) database is full.
545	The driver’s target database is full.
560	The driver’s host (initiator) database is full. Maximum host database is 64.
562	FC processor "Get VP Database entry command" failed.

582	The drivers host (initiator) database is full.
758	No slots available in host database.
771	FCIP system error event.

User Modules

The user modules generate the error log messages listed in Table A-11 and described following the table.

Table A-11. User Modules—Error Log Messages

ID	Log Message	No.
139265	QBRPC_Initialize: Entered	1
139266	QBRPC_Initialize:GetBridge Mem Allocation error	2
139267	QBRPC_Initialize:GetBridgeAdv Mem Allocation error	3
139268	QBRPC_Initialize:GetMgmt Mem Allocation error	4
139269	QBRPC_Initialize:GetIscsi Mem Allocation error	5
139270	QBRPC_Initialize:GetIscsiAdv Mem Allocation error	6
139271	QBRPC_Initialize:GetIsns Mem Allocation error	7
139272	QBRPC_Initialize:GetFcIntfc Mem Allocation error	8
139273	QBRPC_Initialize:GetFcAdv Mem Allocation error	9
139280	QBRPC_Initialize:GetFcSfp Mem Allocation error	16
139281	QBRPC_Initialize:GetLog Mem Allocation error	17
139282	QBRPC_Initialize:GetStats Mem Allocation error	18
139283	QBRPC_Initialize:InitListMem Allocation error	19
139284	QBRPC_Initialize:TargetList Mem Allocation error	20
139285	QBRPC_Initialize:LunList MemAllocation error	21
139286	QBRPC_Initialize:PresTarget Mem Allocation error	22
139287	QBRPC_Initialize:LunMask Mem Allocation error	23
139288	QBRPC_Initialize:Init Mem Allocation error	24
139289	QBRPC_Initialize:TgtDevice Mem Allocation error	25
139296	QBRPC_Initialize:FcTgt Mem Allocation error	32

Table A-11. User Modules—Error Log Messages (Continued)

ID	Log Message	No.
139297	QBRPC_Initialize:BridgeStatus Mem Allocation error	33
139298	QBRPC_Initialize:Diag Mem Allocation error	34
139299	QBRPC_Initialize:DiagLog Mem Allocation error	35
139300	QBRPC_Initialize:FruImage Mem Allocation error	36
139301	QBRPC_Initialize:OemMfg Mem Allocation error	37
139302	QBRPC_Initialize:Status Mem Allocation error	38
139303	QBRPC_Initialize:TcpIpStats Mem Allocation error	39
139304	QBRPC_Initialize:NtpStats Mem Allocation error	40
139305	QBRPC_Initialize:LunList MemAlloc error	41
139315	QBRPC_FreeResources:Entered	51
139553	checkDuplicateIp: Detected Error %08x %08x%04x	289

1	RPC (remote procedure call) server initialization entry point.
2	Get System API memory allocation failed.
3	Get System Advanced API memory allocation failed.
4	Get Management API memory allocation failed.
5	Get iSCSI API memory allocation failed.
6	Get iSCSI advanced API memory allocation failed.
7	Get iSNS API memory allocation failed.
8	Get FC Interface API memory allocation failed.
9	Get FC Advanced API memory allocation failed.
16	Failed memory allocation for Get FC SFP API.
17	Failed memory allocation for Get Log API.
18	Failed memory allocation for Get Statistics API.
19	Failed memory allocation for Get Initiator List API.
20	Failed memory allocation for Get Target List API.

21	Failed memory allocation for Get LUN List API.
22	Failed memory allocation for Get Presented Targets List API.
23	Failed memory allocation for Get LUN Mask API.
24	Failed memory allocation for Initiator API.
25	Failed memory allocation for Target Device API.
32	Failed memory allocation for FC Target API.
33	Failed memory allocation for System Status API.
34	Failed memory allocation for Diagnostic API.
35	Failed memory allocation for Diagnostic Log API.
36	Failed memory allocation for FRU Image API.
37	Failed memory allocation for OEM Manufacturing API.
38	Failed memory allocation for Status API.
39	Failed memory allocation for TCP/IP Statistics API.
40	Failed memory allocation for NTP Status API.
41	Failed memory allocation for LUN List API.
51	RPC free resources entry point.
289	Detected duplicate IP address for management port.

System

The system modules generate the error log messages listed in Table A-12 and described following the table.

Table A-12. System—Error Log Messages

ID	Log Message	No.
237572	"Failed to kill sys killer %d\n"	4
237573	"Temperature over high threshold %d\n"	5

4	Failed to kill system task.
5	Reporting router exceeds maximum operating temperature.

Fatal Log Messages

The following sections list and describe the fatal log messages by reporting module:

- "iSCSI Driver" on page A-25
- "FC Driver" on page A-28
- "TOE Driver" on page A-30
- "System" on page A-31

iSCSI Driver

The following fatal log messages are common to both iSCSI ports, 1 (GE1) and 2 (GE2). They are listed in Table A-13 and described following the table. Log messages beginning with #0 denote iSCSI port 1 (GE1). Log messages beginning with #1 denote iSCSI port 2 (GE2).

Table A-13. iSCSI Driver—Fatal Log Messages

ID	Log Message	No.
69652	#%d: qlutm_init: Diagnostic failed, invalid SRAM	20
69653	#%d: qlutm_init: Diagnostic failed, fail reboot	21
69654	#%d: qlutm_init: Diagnostic failed, invalid NVRAM	22
69655	#%d: qlutm_init: Diagnostic failed, invalid DRAM	23
69656	#%d: qlutm_init: Failed to return diagnostic result to Bridge	24

Table A-13. iSCSI Driver—Fatal Log Messages (Continued)

ID	Log Message	No.
69941	#%d: QLUtmProcessResponseQueue: Invalid handle %x EntryType %x	309
69951	#%d: QLSetNvram: QLRebootTimer failed AF %x RS %x Time %d	319
69964	#%d: QLDisable: QLRebootTimer failed AF %x RS %x Time %d	332
69966	#%d: QLEnable: QLRebootTimer failed AF %x RS %x Time %d	334
70224	#%d: QLProcSrblessiSNSResponse: Invalid handle %x	592
70400	#%d: QLInitializeDevice: QLStartAdapter failed	768
70417	#%d: QLInitializeAdapter: QLInitializeFW failed	785
70432	#%d: QLDoInterruptServiceRoutine: PortFatal interrupt. PortFatalErrorStatus %08x CSR %08x AS %x AF %x	800
70448	#%d: QLStartAdapter: QLRebootTimer failed AF %x RS %x Time %d	816
70489	#%d: QLIsrDecodeMailbox: System Error 8002 MB[1-7] %04x %04x %04x %04x %04x %04x %04x	857
70499	#%d: QLProcessResponseQueue: Invalid handle for ET_PASSTHROUGH_STATUS	867
70501	#%d: QLProcessResponseQueue: Invalid entry type in response queue %x	869
70502	#%d: QLProcessResponseQueue: Invalid handle %x EntryType %x	870
70524	#%d: QLProcessAen: Invalid event %x	892
70544	#%d: QLRebootTimer: Reboot failed!	912
70563	#%d: QLReadyTimer: Adapter missed heartbeat for 0x%x seconds. Rebooting	931
70564	#%d: QLReadyTimer: Abort pTpb=%p failed, DrvCount 0x%x	932
70609	#%d: QLProcessSystemError: Restart RISC	977
70610	#%d: QLProcessSystemError: RebootHba failed	978
70784	#%d: QLConfigChip: invalid NVRAM	1152
70835	#%d: QLStartFw: MBOX_CMD_SET_FLASH failed %x	1203

Table A-13. iSCSI Driver—Fatal Log Messages (Continued)

ID	Log Message	No.
70836	#%d: QLStartFw: Invalid Fw loader state 0x%x	1204
70837	#%d: QLStartFw: Load Fw loader timeout	1205

20	iSCSI processor SRAM test failed.
21	iSCSI processor failed diagnostic reboot.
22	iSCSI processor failed NVRAM diagnostic.
23	iSCSI processor failed DRAM diagnostic.
24	iSCSI processor failed to return diagnostic results.
309	Response queue entry contains an invalid handle.
319	Set NVRAM reboot timer failed.
332	Port disable reboot timer failed.
334	Port enable reboot timer failed.
592	iSNS response contains an invalid handle.
768	Start iSCSI processor failed.
785	iSCSI processor firmware initialization failed.
800	iSCSI processor port fatal error.
816	Start iSCSI processor reboot timer failed.
857	iSCSI processor fatal system error.
867	Response queue invalid handle for ET pass-through.
869	Response queue invalid entry type.
870	Response queue invalid handle for specified entry type.
892	Asynchronous event for unknown event type.
912	Reboot timer failed.
931	iSCSI driver missed iSCSI processor heartbeat. iSCSI processor rebooted.
932	iSCSI processor failed to complete operation before timeout.
977	iSCSI processor system error restart.

978	iSCSI processor reboot failed.
1152	iSCSI processor NVRAM invalid (checksum error).
1203	iSCSI FLASH (NVRAM) command failed.
1204	iSCSI firmware loader invalid state.
1205	iSCSI failed to load firmware in time allotted.

FC Driver

The following fatal log messages are common to both Fibre Channel ports, 1 (FC1) and 2 (FC2). They are listed in Table A-14 and described following the table. Log messages beginning with #0 denote Fibre Channel port 1 (FC1). Log messages beginning with #1 denote Fibre Channel port 2 (FC2).

Table A-14. Fibre Channel Driver—Fatal Log Messages

ID	Log Message	No.
102419	#%d: qlutm_init: Diagnostic failed, port 1 invalid SRAM	19
102420	#%d: qlutm_init: Diagnostic failed, port 1 POST failed	20
102421	#%d: qlutm_init: Diagnostic failed, port 2 invalid SRAM	21
102422	#%d: qlutm_init: Diagnostic failed, port 2 POST failed	22
102423	#%d: qlutm_init: Failed to return diagnostic result to Bridge	23
102656	#%d: QLInitializeAdapter: Reset ISP failed	256
102657	#%d: QLInitializeAdapter: Load RISC code failed	257
102658	#%d: QLInitializeAdapter: Load ISP2322 receive sequencer code failed	258
102659	#%d: QLInitializeAdapter: Load ISP2322 transmit sequencer code failed	259
102662	#%d: QLInitializeAdapter: Verify Checksum command failed (%x)	262
102680	#%d: QLInitializeFW: FAILED	280
102688	#%d: QLInterruptServiceRoutine: Risc pause %x with parity error hccr %x, Disable adapter	288
102689	#%d: QLInterruptServiceRoutine: Invalid interrupt status: %x	289
10691	#%d: QLFcipInterruptServiceRoutine: Risc pause %x with parity error hccr %x, Disable adapter	291

Table A-14. Fibre Channel Driver—Fatal Log Messages (Continued)

ID	Log Message	No.
10692	#%d: QLFcipInterruptServiceRoutine: Invalid interrupt status: %x	292
102716	#%d: QLIsrEventHandler: System error event (%x), MB1=%x, MB2=%x, MB3=%x, MB4=%x, MB5=%x, MB6=%x, MB7=%x	316
102746	#%d: QLProcessResponseQueue: Invalid handle %x, type %x	346
102747	#%d: QLProcessResponseQueueFS: Invalid buffer type: %x	347
102748	#%d: QLProcessResponseQueueFS: Invalid EntryType (0x%x)	348
102749	#%d: QLProcessResponseQueueFS: Invalid handle 0x%x, type 0x%x	349
102752	#%d: QLTimer: Ext Ram parity error exceed limit cnt 0x%x, limit 0x%x, Disabled adapter	352
102755	#%d: QLTimer: Heartbeat failed	355
102800	#%d: QLRestartRisc: restart RISC	400

19	FC1 processor SRAM test failed.
20	FC1 processor power-on self-test (POST) failed.
21	FC2 processor SRAM test failed.
22	FC2 processor POST failed.
23	FC processor failed to return diagnostic results.
256	FC processor failed reset.
257	FC processor firmware load failed.
258	FC processor receive sequencer code load failed.
259	FC processor transmit sequencer code load failed.
262	FC processor firmware checksum failed.
280	FC processor firmware initialization failed.
288	FC processor paused due to internal parity error.
289	FC processor returned an invalid interrupt status.
291	FC processor invalid interrupt status.

292	FC processor paused due to RAM parity error.
316	FC processor system error.
346	Response queue entry contains an invalid handle.
347	FCIP: Response queue entry contains an invalid buffer type.
348	FCIP: Response queue entry contains an invalid entry type.
349	FCIP: Response queue entry contains an invalid handle.
352	FC processor external SRAM parity error count exceeded limit: FC port disabled.
355	FC processor heartbeat failed.
400	FC processor being restarted.

TOE Driver

The TOE driver generates the fatal log messages listed in Table A-15 and described following the table.

Table A-15. TOE—Fatal Log Messages

ID	Log Message	No.
200721	QL3022:ql3xxx_probe: Adapter eth#%d, Invalid NVRAM parameters	17
200725	QL3022:eth%x: Resetting chip. PortFatalErrStatus register = 0x%x	21

17	Encountered invalid parameters in TOE NVRAM.
21	TOE chip reset due to detection of fatal error.

System

The system modules generate the fatal log messages listed in Table A-16 and described following the table.

Table A-16. System—Fatal Log Messages

ID	Log Message	No.
233473	"memory monitor: Detected Uncorrectable Ecc %08lx system is rebooting in 5 secs\n"	1
233474	"Failed to register interrupt handler!\n"	2
233475	"%s class_simple_create failed\n"	3

1	Uncorrectable memory error detected at address provided in log message.
2	Attempt to register the interrupt handler failed.
3	Failed class_simple_create system call from memory monitor initialization routine.

Notes

B Simple Network Management Protocol (SNMP)

Introduction

Simple network management protocol (SNMP) provides monitoring and trap functions for managing the router through third-party applications that support SNMP. The router firmware supports SNMP versions 1 and 2 and a QLogic (see page B-3). You may format the traps using SNMP version 1 or 2 (see page B-11).

SNMP Properties

You can set the SNMP properties using the command line interface (see "Set SNMP" on page 4-45).

Table B-1 describes the SNMP properties.

Table B-1. SNMP Properties

Parameter	Description
Read community	A password that authorizes an SNMP management server to read information from the router. This is a write-only field. The value on the router and the SNMP management server must be the same. The read community password can be up to 32 characters *excluding* the number sign (#), semicolon (;), and comma (,). The default is password is *public*.
Trap community	A password that authorizes an SNMP management server to receive traps. This is a write-only field. The value on the router and the SNMP management server must be the same. The trap community password can be up to 32 characters *excluding* the number sign (#), semicolon (;), and comma (,). The default password is *public*.
System location	Specifies the name of the router location. The name can be up to 64 characters *excluding* the number sign (#), semicolon (;), and comma (,). The default is undefined.

Table B-1. SNMP Properties (Continued)

Parameter	Description
System contact	Specifies the name of the person to be contacted to respond to trap events. The name can be up to 64 characters *excluding* the number sign (#), semicolon (;), and comma (,). The default is undefined.
Authentication traps	Enables or disables authentication trap generation in response to authentication failures. The default is disabled.

SNMP Trap Configuration

SNMP trap configuration supports setting up to eight trap destinations. Choose from Traps 1–Trap 8 to configure each trap. Table B-2 describes the parameters for configuring a SNMP trap.

Table B-2. SNMP Trap Configuration Parameters

Parameter	Description
Trap *n* enabled	Enables or disables trap *n*. If disabled, the trap is not configured.
Trap address*	Specifies the IP address to which the SNMP traps are sent. A maximum of eight trap addresses are supported. The default address for traps is 0.0.0.0.
Trap port*	The port number on which the trap is sent. The default is 162.
Trap version	Specifies the SNMP version (1 or 2) with which to format traps.

*Trap address (other than 0.0.0.) and trap port combinations must be unique. For example, if trap 1 and trap 2 have the same address, then they must have different port values. Similarly, if trap 1 and trap 2 have the same port value, they must have different addresses.

Management Information Base (MIB)

The following sections describe the QLogic management information base (MIB). The MIB consists of four object groups:

- System Information
- Network Port Table
- Fibre Channel Port Table
- Fibre Channel Port Table

System Information

The system information objects provide the system serial number, version numbers (hardware/software/agent), and number of ports (FC/GE).

qsrSerialNumber

Syntax	SnmpAdminString
Access	Read only
Description	The system serial number.

qsrHwVersion

Syntax	SnmpAdminString
Access	Read only
Description	The system hardware version number.

qsrSwVersion

Syntax	SnmpAdminString
Access	Read only
Description	The system software (firmware) version number.

qsrNoOfFcPorts

Syntax	Unsigned32
Access	Read only
Description	The number of Fibre Channel ports on the system.

qsrNoOfGbEPorts

Syntax	Unsigned32
Access	Read-only
Description	The number of gigabit Ethernet ports on the system.

qsrAgentVersion

Syntax	SnmpAdminString
Access	Read only
Description	The version number of the agent software on the system.

Network Port Table

The network port table contains a list of network ports that are operational on the router. The entries in this table include the management port, the iSCSI ports, and the TOE ports on the router. A single gigabit Ethernet port can function as an iSCSI port and a TOE simultaneously; therefore, there may be up to two entries for a given gigabit Ethernet port.

qsrNwPortTable

Syntax	**Sequence of** QsrNwPortEntry
Access	Not accessible
Description	The entries in this table include the management port, and the iSCSI, and TOE ports on the router.

qsrNwPortEntry

Syntax	QsrNwPortEntry
Access	Not accessible
Description	Each entry (row) contains information about a specific network port.

QsrNwPortEntry

A network port entry consists of the following sequence of objects:

qsrNwPortRole	QsrPortRole
qsrNwPortIndex	unsigned32
qsrNwPortAddressMode	INTEGER
qsrIPAddressType	InetAddressType
qsrIPAddress	InetAddress

qsrNetMask	InetAddress
qsrGateway	InetAddress
qsrMacAddress	MacAddress
qsrNwLinkStatus	QsrLinkStatus
qsrNwLinkRate	QsrLinkRate

qsrNwPortRole

Syntax	QsrPortRole
Access	Not accessible
Description	The operational role of this port: management port, iSCSI port, a TOE.

qsrNwPortIndex

Syntax	Unsigned32
Access	Not accessible
Description	A positive integer indexing each network port in a given role.

qsrNwPortAddressMode

Syntax	INTEGER 1 = Static 2 = DHCP 3 = Bootp 4 = RARP
Access	Read only
Description	The method by which the port gets its IP address.

qsrIPAddressType

Syntax	InetAddressType
Access	Read only
Description	The IP address type: ipv4 or ipv6.

qsrIPAddress

Syntax	InetAddress
Access	Read only
Description	The IP address of the port.

qsrNetMask

Syntax	InetAddress
Access	Read only
Description	The subnet mask for this port.

qsrGateway

Syntax	InetAddress
Access	Read only
Description	The gateway for this port.

qsrMacAddress

Syntax	IMacAddress
Access	Read only
Description	The MAC address for this port.

qstNwLinkStatus

Syntax	QsrLinkStatus
Access	Read only
Description	The operational link status for this port.

qsrNwLinkRate

Syntax	QsrLinkRate
Access	Read only
Description	The operational link rate for this port.

Fibre Channel Port Table

This table contains a list of the Fibre Channel (FC) ports on the router.There are as many entries in this table as there are FC ports on the router.

qsrFcPortTable

Syntax	**Sequence of** QsrFcPortEntry
Access	Not accessible
Description	A list of the FC ports on the router.There are as many entries in this table as there are FC ports on the router.

qsrFcPortEntry

Syntax	QsrFcPortEntry
Access	Not accessible
Description	Each entry (row) contains information about a specific FC port.

QsrFcPortEntry

A Fibre Channel port entry consists of the following sequence of objects:

qsrFcPortRole	QsrPortRole
qsrFcPortIndex	Unsigned32
qsrFcPortNodeWwn	PhysAddress
qsrFcPortWwn	PhysAddress
qsrFcPortId	PhysAddress
qsrFcPortType	Unsigned32
qsrFcLinkStatus	QsrLinkStatus
qsrFcLinkRate	QsrLinkRate

qsrFcPortRole

Syntax	QsrPortRole
Access	Not accessible
Description	The operational role of this port: FCP mode or frame shuttle mode.

qsrFcPortIndex

Syntax	Unsigned32
Access	Not accessible
Description	A positive integer indexing each FC port in a given role.

qsrFcPortNodeWwn

Syntax	PhysAddress
Access	Read only
Description	The world-wide name of the node that contains this port.

qsrFcPortWwn

Syntax	PhysAddress
Access	Read only
Description	The world-wide name for this port.

qsrFcPortId

Syntax	PhysAddress
Access	Read only
Description	The interface's 24-bit FC address identifier.

qsrFcPortType

Syntax	Unsigned32
Access	Read only
Description	The type of FC port, as indicated by the use of the appropriate value assigned by IANA. The IANA-maintained registry for FC port types can be found at: www.iana.org/assignments/fc-port-types

qsrFcLinkStatus

Syntax	QsrLinkStatus
Access	Read only
Description	The current link status for this port.

qsrFcLinkRate

Syntax	QsrLinkRate
Access	Read only
Description	The current link rate for this port.

Sensor Table

This table contains a list of all the sensors on the router. There are as many entries (rows) in this table as there are sensors.

qsrSensorTable

Syntax	**Sequence of** QsrSensorEntry
Access	Not accessible
Description	A list of all the sensors on the router. There are as many entries (rows) in this table as there are sensors.

qsrSensorEntry

Syntax	QsrSensorEntry
Access	Not accessible
Description	Each entry (row) corresponds to a single sensor.

QsrSensorEntry

A sensor entry consists of the following sequence of objects:

qsrSensorType	INTEGER
qsrSensorIndex	Unsigned32
qsrSensorUnits	INTEGER
qsrSensorValue	Integer32
qsrUpperThreshold	Integer32
qsrLowerThreshold	Integer32
qsrSensorState	INTEGER

qsrSensorType

Syntax	INTEGER Temperature = 1
Access	Not accessible
Description	The type of data being measured by this sensor.

qsrSensorIndex

Syntax	Unsigned32
Access	Not accessible
Description	A positive integer identifying each sensor of a given type.

qsrSensorUnits

Syntax	INTEGER Celsius = 1
Access	Read only
Description	The unit of measurement for the sensor.

qsrSensorValue

Syntax Integer32

Access Read only

Description The current value of the sensor.

qsrUpperThreshold

Syntax Integer32

Access Read only

Description The upper-level threshold for this sensor.

qsrLowerThreshold

Syntax Integer32

Access Read only

Description The lower-level threshold for this sensor.

qsrSensorState

Syntax INTEGER

Access Read only

Description The state of this sensor, indicating the health of the system.

- **Unknown –** The sensor value/thresholds cannot be determined.
- **Normal –** The sensor value is within normal operational limits.
- **Warning –** The sensor value is approaching a threshold.
- **Critical –** The sensor value has crossed a threshold.

Notifications

The router provides the following notification types:

- Notification Objects
- Agent Start Up Notification
- Agent Shut Down Notification
- Network Port Down Notification
- Fibre Channel Port Down Notification
- Sensor Notification
- Generic Notification

The following sections describe these notifications and objects they use.

Notification Objects

This section defines the objects used in notifications.

qsrEventSeverity

Syntax	INTEGER
Access	Accessible for notify
Description	This notification indicates the severity of the event. The value *clear* specifies that a condition that caused an earlier trap is no longer present.

qsrEventDescription

Syntax	SnmpAdminString
Access	Accessible for notify
Description	A textual description of the event that occurred.

qsrEventTimeStamp

Syntax	DateAndTime
Access	Accessible for notify
Description	This notification indicates when the event occurred.

Agent Start Up Notification

The agent startup notification indicates that the agent on the router has started running.

qsrAgentStartup uses the following object:

- qsrEventTimeStamp

Agent Shut Down Notification

The agent shut down notification indicates that the agent on the router is shutting down.

qsrAgentShutdown uses the following object:

- qsrEventTimeStamp

Network Port Down Notification

The network port down notification indicates that the specified network port is *down*. The next time the port comes up, this event is sent with the *qsrEventSeverity* object set to *clear*.

qsrNwPortDown uses the following objects:

- qsrNwLinkStatus
- qsrEventTimeStamp
- qsrEventSeverity

Fibre Channel Port Down Notification

The Fibre Channel port down notification indicates that the specified Fibre Channel port is *down*. The next time the port comes up, this event is sent with the *qsrEventSeverity* object set to *clear*.

qsrFcPortDown uses the following objects:

- qsrFcLinkStatus
- qsrEventTimeStamp
- qsrEventSeverity

Sensor Notification

The sensor notification indicates that the state for the specified sensor is not *normal*. When the sensor returns to the normal state, this event is sent with the *qsrEventSeverity* object set to *clear*.

qsrSensorNotification uses the following objects:

- qsrSensorValue
- qsrSensorState
- qsrEventTimeStamp
- qsrEventSeverity

Generic Notification

The generic notification reports events other than the defined event types. It provides a description object that identifies the event in clear text.

qsrGenericEvent uses the following objects:

- qsrEventTimeStamp
- qsrEventSeverity
- qsrEventDescription

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